The house servants of the Tui Tonga were the *vaoeiki* and the *tamaioeiki.* 643
The *vaoeiki* was a woman of the matapule class, appointed by the Tui Tonga 644
to care for his household. She had her house within the Tui Tonga's enclosure. She was the custodian of food and supplies, and general household manager, having charge of the other servants. It was her duty also to personally look after the welfare and comfort of the Tui Tonga, ministering to him when he was ill. The *tamaioeiki* were the men servants of the Tui Tonga who actually did the work in the house in which the Tui Tonga lived. The public was excluded from the house. A person coming to see the Tui Tonga sat outside and told his message to a matapule, who in turn took it to the Tui Tonga.

The salutation to the Tui Tonga was, "Malo e lakoifie ae afiona" (Being 643
well or in good health, his majesty). *"Hoo afio"* (your majesty) is em- 576
ployed to-day of the Deity. The Tui Tonga might be addressed either in 195
the second person, *hoo*, or the third person, *ae*. "The heavens are void" was the metaphorical announcement of the Tui Tonga's death.

A kind of garland, *lala heilala*, was worn only by the Tui Tonga and 643
the Tamaha. The *heilala* or wax flower, "formerly found growing only 301
upon the lands of the Tui Tonga," were strung like beads on a strand of 824
fau bark, no other blossoms being used, and the strings of blossoms were formed into a rather broad, heavy band.

The Tui Tonga's hair and beard were trimmed by singeing. The en- 643
velope (*loutoumc*) of the immature coconut was burnt and a living coal 302
therefrom applied to the hair.

When the Tui Tonga drank the milk of a green coconut, at the same 643
time digging out the meat and eating it as he drank, he exclusively employed 412
for that purpose a fresh cut stick from the *toi* tree, the green twigs of which 272
have a sweet mint-like fragrance. 262

Jioeli Pangia, the man who perhaps would be Tui Tonga today if the 643
office had not been absorbed by the Tui Kanokupolu, gave the following 644
information as to the constitution of the Tui Tonga's immediate following and relatives. The classifiication is purely one based upon rank and the rank
in turn based upon relationship. All of the people mentioned were relatives 643
of the Tui Tonga, though some very distantly related. 644
602

1. **Fahu.** Highest in rank. The elder daughter of the elder sister of the Tui Tonga was the Tamaha. Her brothers and sisters were also fahu to the Tui Tonga. [601]
2. **Kaingaofi.** The Tui Tonga's immediate family including himself. Of these the elder sister of the Tui Tonga held highest rank. (By immediate family is meant full brothers and sisters.) [593]
3. **Matapule.** Advisers and officers executing the Tui Tonga's business.
4. **Kainangafonua.** Official and household servants of both sexes. These were commoners.
5. **Tamai o eiki.** Cooks and low people.

The term *polopolo* was equated to the term *inasi* (literally, share or portion). 643
The *polopolo* ceremony was actually a sharing of the first fruits. 622

From the great chief Ata I obtained some information as to the presenta- 651
tion of first fruits to the Tui Kanokupolu and the supervision of horticulture [782]
and fishing by the chiefs of the lineage Haa Ngata Motua, practices which
Ata told me would apply also to the other lineages of to-day as well.

All vegetable and animal products within the territory directly controlled 643
by the Tui Kanokupolu were tapu for that high chief. Two petty chiefs 622
were appointed to make continual rounds of the territory to see that the 651
common people were not utilizing those products without permission. These 262
inspectors called Tui Pangai and Tui Sinoieiki were petty chiefs (*eikisii*)
rather than matapules. They were appointed by Ata, and operated in the territory of the Haa Ngata Motua only, one of them in Pangai, the western part of Hihifo, the other in Sinoieiki, the eastern part.

If, in making his round an inspector discovered a fine bunch of cooking (784)
bananas, or breadfruit, or yams, or sweet potatoes which were regarded
as suitable for the Tui Kanokupolu, he put a tapu upon it by sticking a sharp stick into the banana tree trunk, hanging coconut leaves on the breadfruit tree branches, by putting a stick into the ground near the yam or sweet potato plants. Of coconuts, only a special small kind called *kafakala* was reserved for chiefs. Such inspectors also reported to Ata, and through him to the Tui Kanokupolu, the amount of crops planted by the farmers, and as to whether or not they were sufficient.

Pigs, like coconuts, needed no tapu mark put upon them. All pigs above [231]
a certain size were tapu to the commoners, even to their owners, and were [565]
reserved for their chiefs and for the Tui Kanokupolu. (789)

A commoner who broke the food tapus would be thrashed or possibly [687]
killed. The infraction was reported to Ata, who determined the punishment [565]
and ordered someone to administer it. There seems to have been no fear [784]
of supernatural punishment.

Similar customs controlled the utilization of fishes. Large fishes caught [226]
by any of the people under the rule of Ata, must be brought to him. Es-
pecially fine fishes were sent by Ata to the Tui Kanokupolu. A fisherman [687]
caught eating a large fish might have his tongue pulled out, or be thrashed,
or even killed.

The person whose duty it is to bring fishes to the Tui Kanokupolu bears (463)
the title of Ngalu Haatafu. He is appointed by Ata, being selected, as a rule, from the same family as the preceding incumbent. Benjamin One, called Ngalu since his appointment about 1912, succeeded his cousin. In addition to Ngalu, who delivers the fishes to the Tui Kanokupolu, are two petty chiefs: Faoa, a chief of the lowest order, who supervises the bonito fishing, and Latukefu who supervises the fishing for *vete*.

only the matapule and chiefs wore tapa *vala,* the *tua* men wore a *vala* of 291
losi leaves, called *sisi losi,* but the *tua* women wore these only when poverty- 565
stricken. The *tua* wore tapa only on dress-occasions, and then it was a worn out piece, descending to them from a previous owner of higher station.

In the presence of superiors or on occasions necessitating an outward [292]
show of respect, the *taovala,* an old mat, was worn over the regular *vala.* young members of a chiefly family, both men and women, often wore *longangatu,* ordinary tapa treated with coconut oil to make it smell sweet.

Anciently it was the practice for chiefs to wear the *vala* or skirt-like [622]
garment to half-way between ankle and knee, otherwise they were said to be "cooks" or "descendants of cooks," for cooks wore the *vala* to knees or above. It was permissible, however, for a man to wear his *vala* very high [304]
to show his tattooing.

The combs of chiefs and commoners were distinctive. The commoner's 301
comb (*helutuaniu*) was made of coconut "needles" (rib of the frond) fast- 565
ened together with fine twine. The chiefs' comb (*helutoa*) was of hardwood [531]
(some of turtle shell) which was cut entirely through with fanciful patterns.

Many of the privileges which chiefs and matapules enjoyed were prohib- 565
ited to commoners. The fresh-water dug wells were enjoyed as bathing places [515]
only by chiefs. Commoners might not play certain games, notably the bil- [524]
liard-like game called *lafo.* If caught playing this game they would be pun- [689]
ished, perhaps even with death.

If a chief calls at a commoner's home, the commoner accompanies him 565
on his return to his quarters. There he talks with him. In approaching or 574
passing a chief, or when spoken to by a chief, a commoner would assume [516]
a stooped or bowed posture called *tulolo* or *punou.* If passing a chief, he [576]
would say *tulou* (please excuse my passing). If on horseback, he would dismount.

All pigeons (*lupe*) caught were taken to chiefs, and eaten only by them. 262
If commoners ate pigeons they were punished by whipping or even death. 565
Pigeon-snaring was perhaps the most popular of chiefly sports. A host of 223
words refer to it. Many of them are used metaphorically of women, suc- 689
cessful love-making being likened to successful pigeon-snaring. [526]

The following are notes which were set down from the lips of a com- [196] [831]
moner (here called X) born in Vavau, and who was 58 years of age. They
are of interest as giving his outlook upon social stratification. Doubtless 565
the pride of higher connections exhibited in his remarks is typical of the 829
attitude of many Tongan commoners.

The name which X bears is that assigned at birth and is expressive of courage. [553]
It also occurs in Tonga as the title of one of the Tui Tonga's navigators or fishermen.
X's maternal grandfather fought at Pea for the Tui Kanokupolu George I, and was [729]

Tui Vakano to become a Christian was deprived of his title (*liukava* or *liua*, 622
to debase, to dethrone, to depose) by his outraged constituents—a procedure [798]
which suggests the Samoan practice. There probably were normally no as-
semblages (*fono*) in which the people expressed opinions. In ancient *fono*, [621]
as in the modern *fono*, the people gathered to hear the orders of the chiefs,
not to debate.

The idea prevails that a chief is normally a large, portly person. On 622
one occasion my interpreter remarked, "Can't you see he is a chief? See 826
how big he is." 142

This observation corroborates Wilson (65, pp. 384, lxix):

> In their persons, the men of the superior rank all seem a larger race than ourselves, or the common people . . . . at Tongataboo more muscular, and affecting a more stately gait and superiority. . . . At Tongataboo some [women] were held in highest reverence, and Futtafaihe himself paid one elderly woman the same expression of homage which he received from every other chieftain.
>
> The submission paid to the chiefs, and the distinction of private property were much greater here than at Otaheite.
>
> At Tongataboo, the chiefs, to secure plenty, changed their abodes to other islands (65, p. 385).

Chiefs had many prerogatives. Special bathing holes, many of them wells 622
which required many men to dig, were reserved for the chiefs, though 515
occasionally a chief would allow certain of his retainers to use a bathing 312
well. A few wells, far from the establishment of the chiefs, were permitted
to commoners for bathing and drinking water. Should a commoner bathe [565]
in a chief's well on the sly, it was believed that he would become ill and [753]
die either from the swelling of his abdomen or of his neck. Women had [562]
special bathing places set aside for them. On Lifuka, Haapai, the beach
on the lee (western) side of the island was tapu to commoners for bathing.
Five wells—Utulupe, Vailupesia, Hoaheu, Teleki, and Onemato—all the
property and bathing places of former chiefs, have been described elsewhere
(25). It is related that at the well called Hoaheu the bathing chiefs were [541]
entertained by gladiatorial combats in which two commoners with clubs fought
until one was killed. It was at one of these wells, Onemato, that Mariner's
patron, Finau, bathed when on his way to visit his brother Tupouniua.

Of food, the chiefs, of course, had the best. First fruits and the first 622
of each catch of fish were brought to them. The milk of only small, quite 262
ripe coconuts was used by chiefs; a retainer presenting a large coconut was
liable to be knocked down or beaten. On occasions, such food as the hard [252]
Tahitian chestnut (*ifi*) was chewed to a pulp by an attendant before being
given to the chief to eat.

Visitors of low rank brought a gift of kava, which was handed to the 622
chief by his matapule. Failure to bring this gift resulted in a severe repri- 276
431

mand. Kava was also brought as a peace offering. A high chief, who was 622
coöperating with me in gathering data, left word for an old man to come to 276
our temporary residence, distant four or five miles. The old man fail- 436
ing to come, a second messenger was sent with a threat of horsewhipping. [123] 622
Thereupon the old man came as speedily as his years permitted, bearing a 687
large piece of kava. He was profuse in his apologies, saying that he did 576
not know whom it was that had requested his appearance. I noticed that [554]
servants of this chief in approaching bent low and that if he was seated [357]
near the door of the house they would make their exit through a window [516]
rather than pass near him.

A general tapu is placed upon the dishes and the remains of food or 565
drink of a person higher in rank. It was thought that one breaking this tapu 264
would suffer from sore throat, but the person of rank might offset the evil 784
consequences by stroking the throat of the unfortunate person with the hand [753]
(anciently also with the feet). This tapu which holds throughout Tongan [755]
society is particularly observed between a chief and his underlings. To eat in front of a chief is likewise forbidden, the difficulties being avoided by eating with the back turned to the chief (*kaitafoki*).

The head of a person, also the back, is tapu to one of lower rank; it 622
is tapu to pass close behind a chief. At big kava parties a great chief who 576
does not sit in the kava ring takes a position which makes passing behind 565
him unnecessary. 784 [826]

The food of a chief had to be prepared in a certain style and certain 622
portions of mammals or birds were regarded as belonging by special prerog- 262
ative to the chief. A roast pig is presented to a chiefly person in the fol- 252
lowing manner: After the pig has been removed from the oven and placed
on its back on the hand barrow, sections of fresh banana leaves tied in place
by strips of banana leaf are wrapped about the extremities of the four legs,
the nose, and the region of the rectum. The purpose of this treatment was [784]
said to be the concealing of all those parts of the pig most in contact with anything dirty or filthy. The four parts of a pig which are regarded as fit food for a chief are in order of importance: (a) the back (*tua*), (b) the head (*ulu*), (c) the rump (*tuungaiku*), (d) the chest (*fatafata*), spoken of as the common part.

In serving chickens and pigeons to chiefs, the parts in order of importance are: (a) the rump with the oil glands (*mumui*), (b) the skin of the neck and back (*kiliikia*), (c) the legs (*alonga*), (d) the wings and chest (*hikehika*). I saw the operation of dividing a fowl for a high chief. The oil glands and the bit of skin near the rump were given him first. Then the skin at the base of the skull was broken with the fingers and stripped down the back of the neck on to the back.

Tungi took no part in the kava circle, but went about other matters. Ata sat off by himself, to the left as one faced from *alofi* to *toua*, and was in charge of things generally, being called the *leo ae kava* (guard of the kava). He corrected mistakes of the matapule who was calling. Lamatau was the *tauhi ae kava* (steward of the kava). There were few chiefs present, but a number of matapule on either side of the Queen. 276 574 576 643 644

The food was brought, laid before the Queen, and counted. In counting kava roots distinction was made between different sorts that seemed pretty much the same. Different names were given to the presented kava roots; for example, *kava toho*. [The ceremonies for different types of kava are said to have minor variations.] When the bowl was brought into the *toua* to brew the kava it was wet, evidently having been rinsed round with water on the inside. The kava used had been beaten up beforehand, and was there all ready in a bundle.

The baskets of food and so forth that had just been presented were between the Queen and the bowl. When the kava had been put into the bowl, men were called to make a clear open track from the bowl to the Queen by removing the baskets in the straight line between them, a little to the side. This is called to *fakaavaava*. The bidding of the matapule to the men who are to do it being, "Koe ngaue ni ke fakaavaava" (This work is to open up). After the matapule had finished giving his instructions as to the brewing of the kava these baskets were shifted back to their original positions and the little open track again closed up. This is called *fakamaopoopo* or *fakalelei*, to gather together, or to arrange or put right. The matapule who had been doing the calling then gave the large lots of kava roots, which had just been presented with the food and were on the ground in front of the *alofi*, to another matapule, Takapu, who thereupon ordered all the food and kava roots between the Queen and the bowl to be taken away, and they were removed clear away to the side. Previously, four bunches of ripe plantains wrapped in banana leaf had been brought out, and opened, and plantains presented to those in the *alofi*. A whole bunch was taken to Ata, without being opened. These were left before those to whom they were presented for a minute or so, and then collected, and taken away. [262]

In the straining of the kava a very large fau fiber strainer was given to the man who did the straining, who after making the first straining threw the whole bundle of fiber on to a mat to his left and a little behind. Others then shook out the scraps of kava, divided the strainer into three parts, and then kept the man who strained going with a piece which had been shaken out. He himself did not shake the kava out of the strainer, but merely put the strainer down on the mat, when a piece already shaken out and clean again was at once given to him, and those who did this part of the job shook the just used piece. Towards the end of the straining he shook out pieces of kava from the strainer himself, but on to a mat on his right side. A man sat at the side of the bowl and scraped off on to the ground the dregs of kava that washed up on to the lip of the bowl as the kava was strained. The strainer himself gave a good sweep round that could have left very little on the edge, and then this other man scraped off to the ground any dregs still left. He sat on the right of strainer, and did not seem to bother about scraping any part except that which was quite conveniently close to himself. 276

The Queen's kava was served first. The Queen clapped her hands when her name was called. After the main personages had been served, others had a drink, amongst them some old ladies well down to the left in the *alofi*. The matapule did not know their names and would ask them as it came to their turn to be called. One old lady gave the name of Lelenoa, which is the name of one of Tungi's matapule, but this was not allowed, and she had to get another name. The name of Lelenoa can be used only on the right and not on the left hand side, as Lelenoa's place is on the right. 276 574 576 643 [551]

At the end, when the last cup was filled, the one who called said, "Koe toe oe taumafa" (The remnant of the feast), and it was given to someone. 276 574 576

This is the manner of thanking for the pigs: "Thank you for all pigs [except 276
puaka haamo]. Thank you for the *puaka haamo.* Thank you for the *puaka hula.* Thank 574
you for the *puaka toho.*" 576

If there are any ripened bananas [bananas ripened by wrapping in banana leaves], 764
"Thank you for the ripened bananas." Then next is the Tongan pudding (*faikakai*),
then next is the *too* (shellfish), then the melons, and all things from the land and lastly 262
other things from the sea.

If there is a kava for the women, then this is the order of the thanks: first is the *kie* mat, then the *fihu* mat, then the *kumi* black tapa, then the white tapa (*ngatu taahine*), counted in the thanks for tapa making. Then next are the *fala* mats, then the *efu* mat, then the *kie Tonga* mat. And the last word of thanks is said, "Then thanks for the work done. Thanks for the goods."

After the thanks, the matapule who directs the activities says, "Come, look at the cooked food." Then the thanks are said like this, "Yams, good work."

If there is to be any kava drinking at the funeral then the officiating matapule says: "Get all your things in the *toua* ready." Then after that he says, "Someone come. Keep that kava to be made."

But first he asks the president (Tui Kanokupolu) which kava is to be taken and made.

After the kava is beaten the matapule expects the kava to be made known. Then he says to the persons in the *toua,* "Come, let the work be shown" (so that the king can see the kava better).

After that the man who makes the kava turns sideways and says, "The food (drink) is ready." Then the directing matapule, if it is plain to him that the kava is enough for the kava bowl or kava drinkers, says "Deliver, it is ready. Slow, till mixed. Turn, you two; call for water." When the matapule thinks there is enough water, he says, "First water." Then one stops pouring the water and holds it out. Then it is understood by the matapule that there is enough water and he says, "Stop the water, and mix. Examine and fix the strainer of the kava ready to serve." After he says, "Stop the water," then the remaining unused water is taken away. And when the kava strainer is ready, the matapule says, "Mix below and give him the strainer for the kava."

During the time the strainer is in use Motuapuaka takes the opportunity of talking to the people or one of his family does so, or Lauaki or a navigator, if it is his turn for directing. If the king says the kava is not sufficient, then the matapule asks the kava maker, "Is the kava ready or is there not enough?"

If it is answered, "It is not enough," he will say,

"Put the strainer in the kava bowl, bring it to the front, and someone come and take more kava."

The matapule knows when enough kava or too little is in the kava bowl and it is plain to the matapule whether or not to serve the kava in a banana-leaf cup. He will ask this way, "Is there enough kava in the kava-bowl?"

If it is answered, "The bowl is not big enough," he will say,

"Look for another bowl." And that is brought and one of the men from the kava makers divides the kava and takes it to the new bowl.

Then the order is given from the chiefs near the bend of the kava ring, and it is not allowed for Motuapuaka and Lauaki (the Tui Kanokupolu's matapule who do the announcing) to speak standing up.

Then their remarks are prefaced like this: "I am going to say a few words. Tapu 554
[used by inferiors to superiors, meaning "sacred to thee"] for the Tui Haa Mounga 195
who attends and tapu for the Haa Siulangopu and Latu Hifo, and tapu for the Maliepo and Molofaha, and tapu for the Haa Vaea and tapu for the Haa Ngata Motua and Haa Ngata Tupu, and tapu for the Haa Havea, and tapu for the Haa Maafu, and tapu for the chiefs all present, and tapu for the *toua* chiefs." [The *toua* is the place behind

A chief's
son was never operated on alone but always with companions. There was 881.
no special tapu connected with operating on a chief's son. 622

The man performing the operation was called *faikaukau* or *faitefe*. He 881
was not a chief's appointee. The only factor in determining who could be 304
an operator was skill, involving such factors as a cool head, steady hand, [157]
previous experience, and that type of personality that tends to inspire confidence. The operator would never be the initiate's brother or cousin, but [593]
might be his father, uncle, or any other elderly man reputed for skill in the [605]
community. An informal council of interested fathers selected the operator [604]
who was to officiate. [887]

Preceding the operation the boys bathed themselves thoroughly in the [515]
sea. This bath was called *fufulu*. After drying on a tapa towel, they were brought one at a time to the place of operation. This was usually situated outdoors under a large shady tree, the species of tree being of no importance. The spectators were the adult male relatives of the initiates. The rock, mat or large tree root on which each boy sat naked is called
hekeheka. The operator sat on the ground in front of the boy in the usual [516]
tailor fashion of Tongan men.

The cutting instrument now used is a razor. Formerly it is said to [412]
have been a bamboo knife or sharp shell. A piece of unprinted or uncolored tapa (*fetaaki*) is now wrapped round and round the razor blade, leaving only the tip of the blade exposed. The following is a description of the operation:

> A piece of bamboo was placed over the head of the penis, the foreskin drawn down over this, then the operator, with one quick stroke of the razor, or more if necessary, slit the foreskin throughout its entire superior length.
>
> Then the operator chewed the leaves of a fern called *laufale* and squeezed some
> of the juice of the masticated plant on to the incision. The cut foreskin being doubled [824]
> back around the medial portion of the penis was wrapped with the leaves of *kavakava-* [752]
> *ulie* from which the large fibers had been extracted. The whole was well bandaged with unprinted tapa. A girdle of this material was passed about the waist and between the legs to hold the penis against the belly. The wound was dressed twice daily.
>
> The boys, having all been operated on, were confined in a house together. No one 881
> might visit them, but their adult male relatives. Food was brought to them. They 784
> could leave the house only to defecate and urinate. The operator instructed them in
> the tapus they were to follow. They were told not to think of women. If one suffered [831]
> from erection, he pulled hard at a piece of rope (called *tukutaopeanga*) suspended
> from the rafters and the erection left him. Other tapus forbade the eating of anything [262]
> sweet, the drinking of anything but water, and only one cup of that a day, the eating of anything red, at the present day the eating of any tinned goods, the taking of a bath for five days and nights, and the performance of any heavy work or walking.
>
> In urinating the patient squatted down on his left knee, the right knee high, the 514
> body bent low over the right knee, the weight of the body supported by the right hand, 881
> while with the left hand he served himself. This position prevented the urine from running back on to the erectly held penis. If it should run back on to the penis, a swelling is said to have resulted. This caused extreme pain and even loss of life. It was called *mimi* and the squatting position described above was called *mimifakatafitafi*.

told the people that the gods wished pigs and other food, and when they saw the priest 776
shaking they knew the god wanted something. There is no descendant of the present [787]
Toke living in Moungaone to-day. Kava Moungaone is the chief of Moungaone, and the [793]
two gods were his patrons.

A third deity of Moungaone was the fish god Fakapatu (26, p. 81).

DEITIES OF NOMUKA ISLAND

Folautaofi was a god of Nomuka living in a hill called Fungaholu. The people [782]
prayed to this god and if anyone was sick, a person of his family sacrificed a little [755]
finger to the god. If a boat came from another place and then wanted to return but 776
could not because of strong wind, the people thought it was because the god was living 821
in the top of the mast of the vessel. The mast was then taken down, when the wind 505
quieted and the sea became smooth, so that they had a good day to go, the mast was
set up again. In the hill is a big hole with many human bones. It is thought that 776
Folautaofi lived in this hole and ate men. The "boat" of the god was the *kakafatu*, [266]
a shellfish which is not eaten by the people. [784]
[262]

Fehuluni, a deity who appears in various parts of the kingdom, is a frequenter of Nomuka especially (p. 292).

DEITIES OF UIHA ISLAND

Of the several deities of Uiha concerning whom I obtained information,
Hikuleo (p. 292) and Tokeimoana (9, p. 234) have been to some extent
described. Tokeimoana (Eel-in-the-ocean) became incarnate in the eel, as [825]
his name implies.

Tokeimoana's house, called Hakaumama (Reef-of-the-world), was in the bush on a [778]
tract called Fongolongo. A priest named Hakaumama lived there and was fed there 776
and told the people whatever the god wanted. Sometimes the priest would say to the 793
people, "The god has arrived and is desirous of dining on pork." Thereupon the people would bake a pig and give it to him. Or he would demand some tapa; whereupon they would cut off a piece and give it to him.

When there was any sickness, a healthy man or woman was brought to the priest 782
to have a little finger amputated and taken to the god's house and offered as a sacrifice. 776
The person selected was a child of the sick person's mother's brother (*tuasina*), in other 755
words, an inferior cross-cousin. Some of the sick got well. 605

Taufaahau (afterwards King George I) and his family bowed down before the god 776
Tokeimoana. They were forbidden to eat sea eel, but the people who were not wor- 784
shippers might eat it. The people who worshipped this god had to lie exposed on the [262]
spot where the eel had been broiled or baked even if the fire was still burning. If [785]
they knew it was the place where their "god" had been killed they would go off in an-
other direction so as to avoid coming close to it. Whenever the eel in which the god [825]
was incarnate crawled about on dry land, the people assembled at the god's house and talked to it and when it returned to the water they left.

Haveakai was another Uiha god but was worshipped only at Felemea. The priests 776
of this god, after conversion to Christianity, bore the name Malakai. I could not learn 793
the Tongan name. The priest is said to have manifested the usual trembling when the [787]
god entered him. People near death were brought to him and finger sacrifices offered [763]
by some one of the sick person's relatives. So far as I can learn the operation of [782]
cutting off a finger joint was never performed by the priest himself, but always by one [304]
of the supplicants. The informant did not know what animal constituted the "boat"
of the god. Offerings of food brought by the people to this god would be completely [782]
consumed by Malakai, if he were inspired, or as the Tongan informant put it, he could

> Seketoa, who according to all versions belongs to the royal family of Niua, may 776
> well be a mere "invention" of one of the kings of Niua, framed for the purpose of 825
> deceiving his subjects and of forestalling any future revolt on their part against his family. The fear of displeasing Seketoa, the sea-god and ancestor of Maatu may have secured the latter's authority and prevented the natives tired of his domination from quitting the island in frail canoes in search of new lands.
>
> Those who may feel satisfied with this explanation might confirm it by saying that 776
> elephantiasis and diseases of the skin prove that the punishment occasioned by the mur- 825
> der of Seketoa is always upon the population. That such diseases exist and are the 753
> plague of the country I know from experience. I remember a kava in which I took 164
> part in Niua, while I was there some years ago on a protracted visit. We sat nine in all. With the exception of the two girls that were preparing the drink, we were all afflicted with elephantiasis. I think, however, that the marshes of the island were rather a more efficient cause of it than Seketoa.
>
> However that may be, and although I may be called a simpleton for it, I will add 776
> that those conjectures concerning Seketoa deserve no credit, though I am disposed to 825
> believe that in his manifestations there is something mysterious and disquieting. Such as have dwelt a certain number of years in our islands know how difficult it is to dislodge the devil from his haunts. Now, at the close of the last century, he was absolute master of Niua Toputapu. If he was forced to yield ground, he did so reluctantly; and at all events was careful to leave deceitful snares behind him. And what can his apparent help prove in the case I have related of the *lali* of our Catholics? Absolutely nothing, if not that all means are good enough for him, so long as he can induce souls into error and ravish from God some of the honor and confidence which are His due.

Once when Father Thomas, S. M., was near Niuatoputapu, he saw Seketoa about his boat for more than two hours. He describes him as a large fish with changing colors. On another occasion Seketoa saved one of the members of the mission from drowning. Father Thomas, together with some natives, was proceeding on a raft which began to sink. When hope was lost, Seketoa appeared beneath the raft and buoyed it up until they reached shore safely.

The chief Maatu spoke of two rocks between Niuatoputapu and Samoa, 776
called Fatukau and Fatukalapu, which were deified. They were the home of the god Fatuulu:

> Fatuulu, in human form, used to come to Tafahi Island and give commands. His voice was heard to Niuatoputapu Island. A man who used to be his mouthpiece was
> named Toumaama, meaning "man near god (*tou*) spreader (of god's words)." He was [793]
> the priest in the time of Ngongo (p. 285). There is a place on Tafahi to be seen now where
> Fatuulu stood. They never ate fish in Niuatoputapu until the god gave permission. If [784]
> anyone ate before the god lifted the tapu that person died immediately on the first [262]
> mouthful. This applied to all fish. Toumaama notified the people for the god. When [787]
> the god came, Toumaama would tremble like a leaf, and would neither eat nor drink. The god came and went as he pleased. The tapu was put on or lifted as the god
> liked. The presence of the god is still evidenced by the fact that certain small fish [226]
> (*kaloama*) immediately leave if proper form is not observed in catching them.
>
> When the god appeared in the priest, he uttered commands as to killing of pigs. 776
> Thunder and lightning accompanied the god as he walked over the ocean. The priest 793
> then became possessed, for the god came and entered into the priest. The face of the 787
> priest was all illuminated, his eyes staring. The people would hide when the god [252]

lineal lineages. Thus, it is proper to speak only of the gods of chiefs and 776
of lineages not of the gods of localities. Often more than one god was 613
attached to a lineage. Thus the head of the Haa Takalaua might be under
the protection of a great god like Finautauiku. All members of the lineage
were likewise under that god's protection, and in addition, certain members
of the lineage might have lesser gods as their patrons.

Aside from Tangaloa Tufunga, the patron of carpenters, I could learn 776
of no occupational deities. The attachment of a god to the head of a family 463
might give the appearance of occupational deities. Thus, the head of a 592
matapule family, which practiced carpentering, or functioned as undertakers,
might have a certain deity as his patron, but as the patron of the family
rather than of the occupation.

Not only did the priest of a lineage or family act as a medium between 793
the lineage and the gods, but also as a medium between the lineage and the 775
spirits of its dead. Offerings were made to these spirits by the family 769
through the priest. It was thought that these ancestors could cause illness, [613]
a belief which doubtless led to the making of propitiatory offerings. How- [753]
ever, other more direct and retaliatory means were sometimes resorted to.
The grave of the offending ancestor might be broken open, the bones taken
out and beaten, and imprecations uttered. To avoid sickness caused by the [753]
spirit of the deceased relative or ancestor, Tongans did not pass through [764]
or near graveyards at night. It was thought that the spirits of ancestors 775
sometimes became visible. Thus, at Tatakamotonga in Tongatabu, a light,
supposed to be Tukuaho's spirit (*faahikehe*), is sometimes seen at the spot
where the Tui Kanokupolu Tukuaho was murdered in 1799. Not only 776
families headed by chiefs, but also those headed by matapule, had patron 565
gods. Some families of commoners had a household or patron deity. 592
The family of the great matapule Motuapuaka had the god Haele
Feke as its patron. This god became incarnate in the octopus and [825]
there was a tapu against Motuapuaka's people eating that animal. A Meth- [784]
odist minister named Malupo, who is a member of Motuapuaka's lineage, [262]
even to-day gets a headache when he eats octopus. This god sometimes 776
manifested himself in the priest, who conveyed verbally the messages of the 793
god, and upon the withdrawal of the god shook so violently, that people 787
must rush to him and hold him, in order that he might not injure himself.

The patron deity of the Tui Tonga is reported by Farmer (23) to 776
have been Hikuleo. The patron deity of the Tui Haa Takalaua and of the 643
great chief Tungi, was Finautauiku and the officiating priest was Mohekifiehua.
The patron deity of the Tui Kanokupolu was Taliai Tupou whose
priest was called Totohoumafisi. Tui Ahau was by some informants declared
to be another manifestation of Taliai Tupou, by other informants
a separate deity. Tui Ahau was regarded as a patron of the Tui Kano-

be ten. Ten heads as trophies, or ten enemies slain, was the aim of each 777 warrior. Ten sharks taken relieved fishing-canoe owners from further ceremonial observances. Ten constituted the winning number of points in dart-throwing (*sika*) and bowling (*fakateka*).

The term *tukutuku taumuli* is to make a new boat lucky. Whether it is an actual object or merely a ceremonial act, I did not learn.

Fishermen doubtless had many magical practices in connection with 789 their profession. The following is a fisherman's call, bidding the fish to 226 partake of the bait:

E kai mai, kai mai,	O, eat there! eat there! [539]
E tuona, faona, kai ho'o feke kuo osi mama,	O pull, stretch, eat your masticated octopus, [538]
E tuona, tuo tuona, faona mai kai ma,	O pull, pull steady, stretch there, eat there
Kai mai e.	O eat there!

Whether the call is used for shark fishing, I cannot say, but at any rate, the fishermen talk to the shark, directing its actions and soliciting its help. Often the shark is called Hina and is perhaps identified with that deity (26, p. 183).

The sea slug (*mulione*) when taken, is split in half along its lateral edge and the upper half thrown back into the water with the belief that a new slug will grow from it.

Weak children, when weaned, are fed on rats and cats to get back their 789 strength, as these animals are said to be long lived and hard to kill. The 825 same idea is involved in the use of the word *kuma* (rat) as a personal 855 name for a child who nearly dies at birth. The name Kuma is believed [262] to preserve his life.

To-day there is a certain amount of belief in witchcraft. A wizard or 754 witch is called a *fakalouakau* (*louakau*, leaf; *lou*, leaf; *akau*, a tree or medicine). It seems likely, therefore, that interpreted literally *fakalouakau* means a person who operates with leaf medicine. The accounts of two informants which I obtained in 1920 stress the use of leaves in witchcraft.

An informant in Lifuka Island, Haapai, said that the sorcerer operates with different kinds of leaves rolled in a ball and wrapped in tapa, the ball being placed in the dwelling house or somewhere in the plantation of the victim to encompass his sickness and death or to cause his crops to fail. As the leaves in the ball rotted the victim was believed to sicken.

The second informant (or rather, pair of informants, a man and wife), 754 interviewed on the island of Nomuka, Haapai, said that the aid of a *tevolo* 776 was necessary for success in witchcraft. A man who became a wizard went into the bush and prepared a bamboo tube in which he put the leaves. The informant said that if a person steals up close to the wizard he will hear

The Tongans believe that the dead have the ability to cause the sudden death of 763
anyone. I have known many instances in which a person has dreamed of a dead rela- 775
tive several times in succession and, as a means of stopping it and preventing the dead 764
from killing the living, has gone to the graveyard and dug up the bones, in some cases
whilst there was still flesh upon them, and thrown them into the sea, or chopped them
up. This method is looked upon as infallible. 763

When a man is taken ill his sons go as far away as possible, until he is dead, so 753
that the disease will not attack them. The house and bed he died in are usually 768
burned and the sons coming after will not walk over the spot for fear of infection! 593
Anyone else may do so with impunity.

Food carried over a graveyard, as by a small child who did not realize 763 784
what he was doing, was not eaten, as death or other dire results would 764
ensue. 262

OATHS

An oath (*fuakava*) was also called *lea tuki* (*lea*, speech; *tuki*, a super- 626
stitious practice by which thieves and other miscreants are said to be ac- 763
cursed), according to Baker (2). Apparently Baker refers to the admin- 695
istering of an oath, which, if taken by a thief, would result in his death.
The conception of the oath seems to be ancient, and the idea is quite deep-
seated that swearing falsely results in death.

While I was in Tonga a gold finger ring was lost in a girls' boarding 695 626
school. Inquiry failing to locate it, the girls suggested that they be put 685
on oath, preferably by the police, for then if the thief were one of them- [763]
selves and took oath, she would die. Presumably, however, she could have [783]
averted such a fate by confession.

The Bible is at times used in sealing a pact, often between a man and 675
a woman. "They hold the book," as the Tongans express it. Such a pact 779
is called *puke tohi*. It is frowned upon by the clergy and in general is 782
regarded as a wrong deed, which may act as a curse upon the families of
the book holders.

Examples of oaths occur in certain Tongan poems. "Lest my mother 782
be sterile" is put in the mouth of the Samoan chief Sinilau (26, p. 148).
The poet Fusitouone sings: "Listen while I swear by the bamboo that
waves."

TAPU

In Tonga, as elsewhere in Polynesia, distinction is made between things 784
inherently tapu, such as sanctuaries and the persons of chiefs, and things [171]
which are temporarily tapu, such as food products reserved for a feast.
Temporary tapus may be placed by a chief, by a priest, or by a modern
practitioner skilled in curing as well as "causing" certain ailments. Tapus
placed by chiefs seem to have been backed by no supernatural sanction.
Tapus placed by a priest called for the vengeance of a god upon the tapu

be injured by the wantonness or malice of the 727
lower orders, who took every opportunity of insulting
him. On the 16th of December, Finow, 727
having a mind to go to the island of Wiha, for 634
the recreation of shooting rats, invited Mr. Mariner 484
to accompany him. The inhabitants of 224
this island made great rejoicings on account of [527]
Finow's arrival. He remained there three or [223]
four days, spending the time principally in shooting
rats* and birds.

One morning during Finow's stay at this
island, some of the natives brought to Mr. Mariner 401
his watch, which they had procured from 727
out of his chest, and with looks of curiosity inquired 177
what it was. He took it from them, wound it up, put it to the ear of one of them, and returned it: every hand was now outstretched with eagerness to take hold of it; it was applied in turns to their ears; they were astonished at the noise it made; they listened again to it; turned it on every side, and exclaimed "mo-ooi" (it is alive!): they then pinched and hit it, as if expecting it would squeak out; they looked at each other with wonder, laughed aloud, snapped their fingers, and made a sort of clucking noise with the tongue (expressing amazement). One brought

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* Rats are frequently used as an article of diet by the lower orders: the chiefs shoot them merely for amusement. [262]

634 The king, having finished this affair, began to
669 think of returning to Pangaimotoo: Mr. Mariner,
727 indeed, endeavoured to persuade him
to follow up the advantages of his victory by immediately laying siege to another fortress, which, no doubt, would soon have fallen into their hands; and the whole island, being struck with dismay, would readily have submitted to his government. But, it seems, Finow was not yet the complete warrior; or he thought, perhaps, that, having such powerful weapons in his possession, he could reduce the island at any future time.

Pangaimotoo is not more than three quarters
727 of a mile distant from the island of Tonga, separated
[131] from it only by a long narrow reef.
[484] To this place Finow returned with all his men,
intending to go back to Tonga another day.
[262] As soon as they landed, they sat down to eat,
not having taken any refreshment since morning, with the exception of some of the men, whose stomachs not being the most delicate, had partaken of some yams and plantains that they found roasting along with the bodies of the dead in the general conflagration at Nioocalofa.

727 They remained several days at this island,
349 during which time several canoes were sent
712 to an uninhabited part of Tonga for the

727
purpose of procuring reeds to rebuild the 349
fortress of Nioocalofa. This step was taken 712
by the admonition of the gods, who were [787]
consulted on the occasion through the medium
of the priests.

As the invocation of the gods, and inspiration 128
of the priests, are circumstances that will often
occur in the course of this work, it will be well
to take the present opportunity of describing
them.

The night previous to the consultation of the 787
oracle, the chief orders his cooks to kill and pre- [262]
pare a hog, and to procure a basket of yams,
and two bunches of ripe plantains. These 787
things being got ready, the next morning they 793
are carried to the place where the priest resides,
or wherever he may be at that time: the priest
is sometimes previously apprised of the circum-
stance, at other times not. The chiefs and ma- [292]
tabooles clothe themselves in mats, and repair [276]
to the place where the priest is to be found: if
it be at a house, the priest seats himself just
within the eaves *; if at a distance, he seats him-
self on any convenient spot of ground, and the
matabooles seat themselves on either hand, so
as would form a circle, or rather an ellipsis, if

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* Their houses are built somewhat in form of a shed, [342]
open all round, and the eaves coming within about four feet
of the ground.

766 during the siege. This being granted, they
727 came and singled out half a dozen, from the
350 that lay about, whom they knew, from
particular circumstances, to be their relations.
These they took home to Nookoo Nookoo, leaving all the rest where they found them.

Every day a number of deserters from dif-
669 ferent garrisons came over to Finow: they all
726 brought intelligence that Finow might shortly
expect an attack from one or other of them: but the fortress of Nioocalofa was now well prepared to receive them. In the meanwhile, the chief of a fortress called Bea, about four miles to the eastward, entered into an alliance with Finow, or rather submitted to his dominion, acknowledging him king of Tonga. The name of this chief was Tarky.

Having remained a fortnight or three weeks in daily expectation of an attack from an enemy, and seeing yet no signs of it, Finow became exceedingly impatient; for he was desirous of returning to the Hapai islands to perform an indispensable ceremony of a religious
766 nature, which we shall now explain. At the
death of Tooitonga, (their great divine chief)
784 there is such a constant feasting for nearly a
262 month, as to threaten a future scarcity of cer-
765 tain kinds of provisions: to prevent which evil,
643 a prohibition, or *táboo*, is afterwards laid upon
[565]

hogs, fowls, and cocoa-nuts, so that nobody but 766
great chiefs may use them for food, under pain 784
of death. This *tâboo* lasts about eight months.
When Mr. Mariner first arrived at these islands, 262
Tooitonga, the predecessor of the present Tooi- 765
tonga, had just died, and the ceremony of his 643
burial was being performed; though this gen- [565]
tleman had not the opportunity of witnessing
it. All the feasting consequent upon this event
being over, the *tâboo* was imposed upon the ar-
ticles above named; and now, after the lapse of
eight months, comes the period to take it off,
and the accomplishment of this constitutes the
ceremony in question. It must be mentioned, [796]
by the way, that two or three plantations are [565]
not subject to this *tâboo*, to the end that hogs,
fowls, and cocoa-nuts, may be furnished for oc-
casional religious rites, and for the consumption
of the higher order of chiefs. If the removal of
the *tâboo* were not performed in due time, it is
supposed that the Gods would become exceed-
ingly angry, and revenge themselves by the
death of some of their great chiefs.

Finow, as before stated, seeing no appearance 766
of an enemy, and being anxious to return to 765
Hapai for the performance of this ceremony, con- 787
sulted the Gods, and was admonished by them 634
to proceed to the Hapai islands as soon as pos-
sible. With this view, he at first intended to 634
728

727 could know nothing of the contents; and that
634 the histories of whole nations were thus handed
177 down to posterity, without spoiling by being
kept (as he chose to express himself). Finow
acknowledged this to be a most noble invention,
but added, that it would not at all do for the
Tonga islands, that there would be nothing but
disturbances and conspiracies, and he should
not be sure of his life, perhaps, another month.
He said, however, jocosely, that he should like
to know it himself, and for all the women to
know it, that he might make love with less risk
of discovery, and not so much chance of incurring
the vengeance of their husbands.

[522] This circumstance served greatly to amuse
and interest Finow and all his chiefs during
484 their day's stay at Pangaimotoo. The following
morning they again embarked, and sailing
with a favourable wind for the Hapai islands,
they arrived at Namooca, and ultimately at Lefooga.

262 Orders were now issued, and preparations were
796 speedily made for the ceremony of annulling
766 the eight months *taboo*. The places appro-
784 priated for this purpose were two *malâis*, and the
765 grave of Tooitonga. For distinction's sake, we
shall call the first *malâi* Tooitonga's, and the
[349] second Finow's. Tooitonga's *malâi* is near his
own residence, and on this were erected four

columns of yams in the following manner: four 262 196
poles, about eighteen feet long, were fixed upright 766
in the ground, to the depth of a few feet, 784
at about four feet distance from each other in a 765
quadrangular form; the spaces between them, 349
all the way to the top, being crossed by smaller
poles about six inches distant from each other,
and lashed on by the bark of the *fow* (species
of the Hibiscus); the interior of this erection
being filled up as they proceeded with yams;
and afterwards other upright poles were lashed
on to the top with cross pieces in like manner,
still piling up the yams; then a third set of
poles, &c., till the column of yams was about
fifty or sixty feet high, when on the top of all
was placed a cold baked pig. Four such columns
were erected, one at each corner of the
malái, the day before the ceremony, and three
or four hundred hogs were killed, and about
half baked. The following day the hogs were 262
carried to the king's *malái*, about a quarter of a 196
mile off, and placed upon the ground before the 766
house, as well as four or five wooden cars or 784
sledges full of yams, each holding about five 765
hundred. While this was doing, and the people
assembling from all quarters, those who were
already arrived sat themselves down round the
king's *malái*. Occasionally some of them got [517]
up to amuse themselves and the rest of the com- [526]

262 pany by wrestling with one another. The king
796 and his chiefs, all dressed in plaited *gnatoo*, were
766 already seated in the house, viewing what was
784 going forward. The company being, at length,
765 all arrived, and having seated themselves, the
[517] king gave notice that the ceremony was to begin.
[526] The young chiefs and warriors, and those
who prided themselves in their strength, then
[292] got up singly, and endeavoured in turns to carry
off the largest hog: when one failed, another
262 tried; then a third, and so on, till every one
796 that chose had made a trial of his strength. To
766 carry one of the largest hogs is not a thing easy
784 to be done, on account of its greasiness as well
765 as its weight; but it affords a considerable share
482 of diversion to see a man embracing a large fat
[565] baked hog, and endeavouring to raise it on his
shoulder. As the hog was found too heavy for one man's strength, it was carried away by two, whilst a third followed with its liver. They were deposited on the ground near Tooitonga's *malái*, where the men waited till the other hogs were brought. In the mean time the trial was going on with the second hog, which being also found too heavy for one man, was carried away by two in like manner; and so on with the third, fourth, &c., the largest being carried away first, and the least last. The second, third, fourth, &c. afforded more sport than the first,

as being a nearer counterbalance with a man's 262
strength. Sometimes he had got it nearly upon 796
his shoulder, when his greasy burden slipped 766
through his arms, and, in his endeavour to save 784
it, brought him down after it. It is an honour
to attempt these things, and even the king, 765
sometimes, puts his hand to it*. The small 482
hogs and pigs afforded no diversion, as they
were easily lifted and carried away, each by
one man, and deposited, not at the outside of
Tooitonga's *malái* along with the largest hogs,
but carried at once into it, where the cars of
yams were also dragged one at a time. When [634]
every thing was thus cleared from the king's [565]
malái, the company got up and proceeded to
the other, where they again seated themselves,
whilst Tooitonga presided, and the king and
his chiefs, out of respect, sat on the outside of
the ring among the great body of the people.
The large hogs which had been deposited in the
neighbourhood of this *malái* were now to be
brought in, each by one man, and, as it had
been found that one man's strength was not
sufficient to raise any of them upon his shoulders,
two others were allowed to lift the hog and
place it upon his shoulders for him, and then
he tottered in with his load, followed by another

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* Nevertheless, as will be seen hereafter, they are a very cleanly people. [515]

262 man with the liver; and in this manner all the
796 hogs and their livers were carried in and de-
766 posited in two or three rows before Tooitonga.
784 Their number was then counted by the head
765 cooks of Tooitonga and Finow, and announced
482 aloud to Tooitonga by his own head cook; the
number of cars and piles of yams was also announced at the same time.

This being done, about twenty of the largest hogs were carried to Tooitonga's burying-place, nearly an hundred yards distant: those which were too heavy for one man to lift being put upon his shoulders by two others, &c., as before, and deposited near the grave; one car of yams was also taken and left in like manner.

262 This portion of pork and yam being disposed
796 of, the remainder was shared out in the follow-
766 ing manner: one column of yams was allotted
784 to the king, to be removed in the afternoon,
765 and to be disposed of as he pleased: (he always
shares it among his chiefs and fighting men:) another column was allotted to Veachi* and two or three other chiefs: the third was given to the gods; (the priests always take care of this portion;) and the fourth Tooitonga claimed for his own share. As to the cars of yams, they

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[565] * Veachi, like Tooitonga, is a divine chief, that is descended
[643] from a god; he is, however, inferior to Tooitonga, but higher
[776] in rank than the king: see second volume of the work.

were never inquired after: Tooitonga generally 262 takes care of them, and appropriates them to his 796 own use, and that of his numerous household, 766 not that he has any legal right to them beyond 784 custom and silent consent. The hogs were disposed of in like manner: 765 the greatest quantity to the greatest chiefs, who share them out to the chiefs immediately below them in rank, and these again to their dependants, till every man in the island gets at least a mouthful of pork and yam. The ceremony now concluded with dancing, wrestling, &c. after which, every person present having secured his portion, retired to his home to share it with his family. From this moment the *taboo*, or prohibition upon hogs, fowls, and cocoa-nuts, was null and void.

The hogs and yams left at Tooitonga's grave, having remained there several days, (till the pork stunk,) were shared out, by order of Tooitonga, to all who chose to apply for a portion. They belong indeed properly to the principal 565 chiefs; but as they are accustomed to feed upon meat in a better state of preservation, they forego their claims, and allow the lower orders to eat it for them. Mr. Mariner could not learn why the pork was thus left till it was scarcely eatable—the only answer he could get was, that such was the ancient custom. It may perhaps be considered an offering to Tooitonga's ances-

262 tors, which it would be sacrilegious to take
796 away while it was good for any thing.

766 Finow had three daughters, the eldest of
784 whom, now about eighteen years of age, had
765 been long betrothed to Tooitonga, who having
expressed his wish that the marriage should
643 take place, Finow gave orders for the necessary
581 preparations, about five days after the abovementioned ceremony. Tooitonga was now about forty years of age. The particulars of this chief's marriage, which was somewhat different from those of other chiefs, shall be here described.

643 The young lady having been profusely anoint-
585 ed with cocoa-nut oil, scented with sandal-wood,
[302 was dressed in the choicest mats of the Naviga-
302] tor's islands, of the finest texture, and as soft as
[292] silk; so many of these costly mats were wrapped round her, perhaps more than forty yards, that her arms stuck out from her body in a ludicrous manner; and she could not, strictly speaking, sit down, but was obliged to bend in a sort of half-sitting posture, leaning upon her female attendants, who were under the necessity of again raising her when she required it. A young girl, about five years of age, was also dressed out in a similar manner, to be her immediate and particular handmaid. Four other young virgins, about sixteen years of age, were also her fol-

643 formerly they used bamboo) to try their skill in
585 carving with speed and dexterity, which is considered
252 a great recommendation. A considerable
412 part was shared out to the chiefs, each taking
177 his portion and putting it in his bosom*. The
565 remainder of the pork was then heaped up and
scrambled for at an appointed signal. The woman who had laid herself down, covered over with *gnatoo*, now rose up and went away, taking with her the *gnatoo*, and the basket containing the bottles of oil, as her perquisites. Tooitonga then took his bride by her left hand, and led her to his dwelling, followed by the little girl and the other four attendants. The people now dispersed, each to his home. Tooitonga being arrived with his bride at his residence, accompanied her into the house appropriated for her†,

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* It is a peculiar religious injunction in this ceremony, that
784 the chiefs should put their pork in their bosoms, for they never
262 eat it themselves: and as it is *tabooed* by touching them, no other native of the Tonga islands may eat it: so that it generally falls ultimately to the lot of the natives of the *Fiji* islands, or other foreigners present, who are not subject to the *taboo* of Tonga. For the nature of the *taboo*, reference must be made to the second volume of the work.

† It must be noticed that every great chief has within his
595 fencing several houses, one or more of which always belongs
342 to his wives. He seldom goes to their house to sleep: he generally
565 sends for one to sleep with him; at least, this is always
784 the case with Tooitonga, for nobody can eat, drink, or sleep, in the same house with him without being *tabooed* (see *Taboo*.)

where he left her to have her mats taken off, 643
and her usual dress put on; after which she 585
amused herself in conversation with the women.
In the mean time a feast was prepared for the [262
evening, of pigs, fowls, yams, &c. and cava: 574
this was got ready on the *malái*, where, about 565]
dusk, Tooitonga presiding, the company sat
down to receive their portions, which the generality
reserved to take home with them; the
lower orders, indeed, who had but a small quantity,
consumed theirs on the spot. After this [276]
the cava was shared out and drunk. The musicians [533]
(if so they can be called) next sat down
at the bottom of the ring, opposite to Tooitonga,
in the middle of a circle of flambeaus, held
by men who also held baskets of sand to receive
the ashes. The musical instruments consisted 534
of seven or eight bamboos of different lengths and sizes, (from three to six feet long) so as to produce, held by the middle, and one end being struck on the ground, different notes according to the intended tune (all the knots being cut out of the bamboo, and one end plugged up with soft wood). The only other instrument was a piece of split bamboo, on which a man struck with two sticks, one in
each hand, to regulate the time. The music 643
was an accompaniment to dancing, which was 585
[533]
[535]

643 should return from Hamoa. He had, indeed,
581 brought two wives with him, natives of that
[177] place, but, finding that his friends at home had
not been unmindful of him in this particular,
he resolved to marry these young maidens also:
and partly to please his own humour, and
partly to afford a little amusement to the Hapai
people, he resolved, also, that the ceremony
should be performed, for the most part,
after the manner of the Navigator's islands.

634 On the morning of the day of marriage,^A
585 which was about a week after the arrival of the
[565] prince, most of the lower class of the people
were employed in bringing from different parts
of the island, yams, ripe plantains, and bananas;
cocoa-nuts, bread fruit, fish, and cakes*.
These were piled up on the *maldi* in four large
heaps, with a baked pig on the top of each.
[292] The people assembled on the spot, dressed up
[301] in new garments, ornamented with wreaths of
[302] flowers, and with red ribbands made of the fine
membrane of the leaf of the *lo acbw*, much resembling
silk: their persons were anointed
with sweet-scented oil. The spectators seated
themselves in two sections of a circle, one beginning
from the right, the other from the left

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[262] [252] * These cakes are made of flour prepared from the *Mahoá root* (see the vocabulary), mixed up with scraped cocoa-nut into a paste, and baked. They are considered a luxury.

A [of Finow's son--Analyst]

could not construct them a little lighter; or at 669
least, as they had ingenuity enough to make the 726
guns, they ought to have, they said, the ingenuity [713]
also to make legs for them to walk with. [829]

Being arrived at Neafoo, the king, his chiefs, matabooles, Mr. Mariner, and some of the Englishmen, went on board the canoes to pass the night. Mr. Mariner now, as well as in numerous
other instances, found the advantage of 705
having an adopted mother, by whom he was 262
provided with plenty of good food, consisting [727]
of cooked yams, ripe bananas, and raw fish. [597]
They had partaken of no food all the day, and even now not above thirty or forty, consisting of chiefs and matabooles, got any thing to eat, for the time was too far advanced, and the common men too fatigued, to cook yams enough for themselves that night; and as to raw fish, it was considered too good, and at that time too scarce, to give to them*.

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* The idea of eating raw fish is not one of the least revolting to the imagination; and we are too readily disposed to believe, that nothing but excessive hunger could render this species of food at all palatable: hence voyagers, on witnessing this act among the natives of these islands, have reasonably supposed them to be some of the lower orders much distressed for want of food (vide Labillardiere's voyage); but the fact is, raw fish is a very palatable diet, and is accordingly eaten as a matter of choice, not of necessity. Being strongly assured of this fact by Mr. Mariner, I made the trial, and repeated it several times upon mackarel, salmon,

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669 The next morning, after the men had re-
freshed themselves, armed parties were sent out
712 to cut reeds, for the purpose of building a for-
tress at Nëáfoo: Finow and his principal chiefs
remained to lay out the plan, whilst others were
employed in digging a ditch about fourteen
feet wide and ten feet deep. The spot on
which this fortress was planned out was so situ-
ated, that one side was close upon the sea-shore,
on a steep rocky bank, and therefore required
no further defence, for the enemy had no large
canoes, having broken up all they had to make
small ones, and with these it would be impru-
dent to venture as far as Neafoo, lest their re-
treat should be cut off by Finow's larger and
669 swifter canoes. In the course of the day the
726 fencing and ditch were tolerably well com-
pleted, so that the following night the greater
164 part of the army slept on shore; but they were
165 not without alarm, for about midnight, a small
party of the enemy having come down to re-
connoitre, looked through the openings of some
part of the fencing that was not quite finished,
and seeing several of the men sitting round a

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[705] and turbot, and found the assertion perfectly correct: all
[262] the preparation necessary, is to take off the skin, and wash
the fish with a little salt water; it will then taste as relishing as the oyster, and very similar to it. If we eat the oyster raw, why not other fish?

daring fellow, who often ventured by night 669 and early in the morning close up to the *colo* 726 of Neafoo to kill any stragglers they could meet with. One morning a party of Finow's men, twelve or fourteen in number, among whom was Mr. Mariner, being out on a little excursion, surprised four of the enemy, who were busily employed digging *ma** in a pit: these they immediately laid hold of, and dragged out, to take them home prisoners. Imagining 669 they had got Moteitá and his followers who had 727 so often committed depredations upon them, they resolved to make a signal example of their prisoners. A young chief, however, objected to this measure, and proposed that it would be better to decapitate them at once, and take their heads home. This plan was immediately [412] assented to, but some one observing that they [237] had no knives with them, another casting his eyes upon the ground, remarked, there was something that would do as well; and taking up a shell from a neighbouring spot, where some persons had been eating large pearl oysters, he proposed to proceed to work with oyster-shells as substitutes for knives: this was immediately approved of, and the four unfortunate

* Ma is a species of prepared food, consisting of bread-fruit, or plantains, or bananas; buried for a considerable time under ground, in order to ferment. [262] [252]

634 727 177 829 things of little value; and he was exceedingly sorry he had not secured all the dollars out of the Port au Prince, before he had ordered her to be burnt: "I had always thought," said he, "that your ship belonged to some poor fellow, "perhaps to king George's cook*; for captain "Cook's ship, which belonged to the king, had "plenty of beads, axes, and looking-glasses on "board, whilst yours had nothing but iron "hoops, oil, skins, and twelve thousand *päänga* "as I thought: but if every one of these was "money, your ship must have belonged to a "very great chief indeed."

634 484 Finow and his chiefs having now remained at the Hapai islands nearly six weeks, resolved to return to Vavaoo, and the following day set sail: the prince and Mr. Mariner accompanying them. 634 231 As soon as they arrived at Vavaoo, the king gave orders that all the dogs in the island, except a few that belonged to chiefs, should be killed, because they destroyed the game, particularly the *kalai;* after which he promised himself great sport with his favourite bird. 262 As the breed of dogs was scarce at these islands, there were not more than fifty or sixty killed on

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[526] games at the end of the second volume): they supposed dollars to be used among us for a similar purpose.

[252] [565] * At these islands a cook is considered one of the lowest of mankind in point of rank.

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the occasion; but on these several of the chiefs 262 made a hearty repast. Finow was particularly fond of dog's flesh, but he ordered it to be called pork; because women and many men had a degree of abhorrence at this sort of diet. The parts of the dog in most esteem are the neck and hinder quarters. The animal is killed by blows on the head, and cooked in the same manner as a hog: Mr. Mariner has frequently partaken of it, and found it very good; the fat is considered excellent. At the Sandwich 171 islands the practice was almost universal in Mr. 262 Mariner's time, so that more dog's flesh was eaten than pork: the hogs being preserved to be used as a trading commodity with European and American vessels. At these last mentioned islands most of the male dogs are operated upon, and afterwards fattened for the express purpose; and Mr. Mariner thinks their flesh is nearly as good and tender as that of a sucking pig.

Finow having ordered all things to be got 223 ready, went out early in the morning after his 634 arrival, to try the excellence of his bird; and had very great sport. The day following he went out again; but the bird, from some cause or another, would not make any noise; and this made him so angry that he knocked it on the ground, and beat it with an arrow,

727 probably covered: and even if it were not con-
133 cealed it would transmit no current of air in-
wardly unless the tide were going out, which
he thinks was not the case. At the time Hig-
gins was there the weather was perfectly calm,
not a breath of wind stirring; consequently,
the influx of air must have been occasioned by
the descent of the surface of water within: on
the other hand, when the water rises the air
must rush out. This cavern therefore may be
said to respire like an animal; the rise and fall
of the tide acting as a diaphragm, and the
above-mentioned narrow passage as a breathing
[696] hole. Jeremiah Higgins also heard the story
[584] of the young chief and his mistress, which
[823] perfectly accorded in all the material points
with what is told above: it appears from his
[173] narration as well as from Mr. Mariner's, that
the natives give this account of the two lovers
as a piece of true history, not a romance.
133 There is a sort of shelf at the farther end of
the cavern and high up, which is pointed out
as having been used for a bed-place.

Finow and his party having finished their
224 cava, dived out of the cavern, and resumed
[517] their proper dress: after which they proceeded
[634] across the country, and got into the public
roads, to amuse themselves with the sport of
[136] shooting rats. These animals are not so large
[565]
[262]

as in our parts of the world, but rather between 224
the size of a mouse and a rat, and much of the 136
same colour: they live chiefly upon such ve- 565
getable substances as sugar-cane, bread-fruit, 262
&c.: they constitute an article of food with
the lower orders of people, but who are not allowed to make a sport of shooting them, this privilege being reserved for chiefs, mataboolea, and mooas *. The plan and regulations of the game of *fanna gooma* (rat-shooting) are as follow.

A party of chiefs and others having resolved to go rat-shooting, some of their attendants are ordered to procure and roast some cocoa-nut, which being done, and the chiefs having informed them what road they mean to take, they proceed along the appointed road, chewing the roasted nut very finely as they go, and spitting, or rather blowing, a little of it at a time out of their mouths with considerable force, but so as not to scatter the particles far from each other; for if they were widely distributed, the rat would not be tempted to stop and pick them up, and if the pieces were too large, he would run away with one piece instead of stopping to eat his fill. The bait is thus distributed, at moderate distances, on each side of the road,

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* For a description of these ranks in society, see the subject in the second volume.

cocoa-nut trees in abundance; the soil is also 134
highly favourable for the cultivation of yams, 241
which grow there larger than in most other
places. The water which terminates it at one 136
end is noted for the vast abundance of a peculiar
fish which resort to the shores of Vavaoo
about the month of July. This fish they call
Ooloo Caoo, and is about the size of the common
sprat, and of much the same shape and
hue. The common people consider it a great 262
delicacy, but there is considerable danger of [164]
being poisoned by eating them promiscuously, [165]
for here and there is found one which, on eating, [565]
produces the most alarming and sometimes [825]
the most fatal effects*; and as there is no mark
by which these poisonous ones may be known,
it is always dangerous to eat of them, unless
they be procured in the rocky bay of this plantation,
where, they say, they never found any
poisonous, and therefore partake of them without
any reserve: the chiefs however seldom touch
them, unless perhaps there is a scarcity of other
fish. The time when they are best and in 226
the greatest plenty is in the latter end of the 285

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* The symptoms produced are headach, nausea, vomiting,
and diarrhœa, with violent pains in the bowels, to which
death generally succeeds in the course of four or five hours.
The only remedy they use (which very seldom succeeds) is [152]
to cause the patient to drink abundantly of water, or, what
is considered still better, the milk of young cocoa-nuts.

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valuable property would endanger his life: the 171
axe, or the club, on some unlucky occasion, 287
would deprive him of it for ever, and of his life too.

The whale of which we have been speaking 262
as just found was, for the most part, in a very 565
corrupted state; there were, however, some places where it was not quite so bad; and as whale's flesh was rather a novelty, (and as novelty is often a provocative of appetite) the lower orders managed to make a meal of it.

About this time a ship arrived off the north- 727
west coast of Vavaoo. She proved to be the Hope, Captain Chase, of New York. When Mr. Mariner heard the agreeable intelligence of her arrival, he was with Finow at the small island of Ofoo, on the eastern coast of Vavaoo. He immediately asked the king leave to go on board, who very readily and very kindly gave his permission. Several matabooles were with him, one of whom whispered something to the king, which Mr. Mariner imagining to be prejudicial to himself, endeavoured to distract Finow's attention by repeatedly thanking him for his liberal conduct towards him, and expressing the grateful sense he entertained of his long continued friendship and protection; assuring him that he had no other wish to leave the islands but what was prompted by the natural desire

773 time turned into a turtle, and was the origin
825 and source of all the turtle now found in the world.

This story obtains almost universal credit at
262 the Tonga islands; in consequence, turtles are
784 considered as almost a prohibited food, at least
[753] very few will venture to eat them without first offering a portion to some god, or sending some to any chief that may be at hand: and there are many that will not eat turtle on any account, being fearful of its producing enlarged livers, or some such visceral complaint. It is not supposed, however, to be so likely to have a bad effect upon great chiefs, as they approach so near in rank and character to the gods themselves.

Such are their principal notions respecting
773 the origin of things. As to the first formation of the solid sky (as they deem it), or the island of Bolotoo, or the gods themselves, they pretend to form no idea, and never think of agitating the question, whether they are eternal, or whether they had a beginning, deeming all such speculations as vain and fruitless; for who, say they, can remember, or who has been
[538] there to see? They have no legends or tales
[171] that seem to resemble those of the Society islands, as related by Captain Cook.

823 Respecting the earth, their notion is, that it

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left off, but commencing and going on with the 276
same individuals as if it were the first bowl; 574
the third in the like manner, &c. Every bowl [262]
is provided with a fresh quantity of *fono*, or vic- [264]
tuals to be eaten with the cava, and which are
shared out in the same way as before: these generally consist of yams, bananas, or plantains, but sometimes a baked pig is brought, in which case the liver and a yam is the portion presented to the chief; if fowls are brought, the skin of the throat, and the rump, are the president's share. If, before the conclusion, any one in the superior circle wishes to leave, he says to the chief, *Iky' teoo mow cava*, I cannot provide cava; and, with this apology, he leaves: or, if he has actually provided cava, he has only to state some reason for his leaving the company, such as going to another island, or to superintend some work.

It has been noticed, that there are two ma- 276
tabooles, one on each side of the president, 574
who direct the ceremonies; but it must be 565
mentioned, that only one of them regulates the preparation and sharing out of each bowl: i. e. one regulates the first bowl, and the other the second, and so on alternately. They generally sit close to the chief, except when Tooitonga presides, and then there is an intervening space, between him and them, of about six feet, or ra-

As it is
forbidden to quarrel or fight upon consecrated 784
ground, so fighting in such a place would be 778
said to be *táboo*, and those that fought would 578
be said also to be *táboo*; and a man who is thus 782
táboo would have to make some sacrifice to the 783
gods as an atonement for the sacrilege, as instanced
in Palavali's case. (See Vol. I. p. 216.)
If a man be guilty of theft, or any crime whatsoever, 784
he is said to have broken the *táboo*; and 685
as all such persons are particularly supposed 825
liable to be bitten by sharks, an awkward mode 695
of discovering a thief is founded upon this notion,
by making all the suspected persons go
into the water, where sharks frequent, and he
who is bitten or devoured is looked upon as
the guilty person. If any one touches a superior 784
chief, or superior relation, or any thing [576]
immediately belonging to him, he *táboos* himself;
but this is not supposed to produce any
bad consequence, unless he feeds himself with
his own hands, without first removing this
táboo, which is to be done by performing the
ceremony of *möë-möë*, directly to be explained.
If a person touches the body of a dead chief, [761]
or any thing personally belonging to him, he
becomes *taboo*, and time alone can relieve him.
(See note, Vol. I. p. 141.) Certain kinds of [262]
food, as turtle, and a certain species of fish,
from something in their nature, are said to be

784 *táboo,* and must not be eaten until a small portion
be first given to the gods. Any other kind
262 of food may be rendered *táboo* by a prohibition
being laid on it. Fruits and flowers when tábooed
are generally marked to be so, by pieces
of white *tapa*, or a piece of plait, in the shape
784 of a lizard or shark*. To prevent certain kinds
796 of food from growing scarce, a prohibition or
táboo is set on them for a time, as after the
[262] *ináchi*, or other great and repeated ceremonies;
[651] and which *táboo* is afterwards removed by the
ceremony called *fúccaláhi;* but this latter term
is not only applied to the ceremony which removes
the prohibition, but is equally used to
express the duration of the *táboo* itself, and which
therefore is often called the time of the *fúccaláhi*. During certain ceremonies, as that of the
ináchi and the *fala* (see Vol. I. p. 390), nobody
may appear abroad, or at least in sight, it being
tabooed to do so.

784 Any thing that is not tabooed is said to be
[192] *gnofoba* (i. e. easy, or at liberty), and is a term
used in contradistinction to *táboo*.

[565] When a person is tabooed, by touching a
[788] superior chief or relation, or any thing personally
belonging to him, he will perform the cere-

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[609] * Nevertheless they would not refuse to pluck and eat if Mr. Mariner, or any foreigner not influenced by such superstition, would first remove this external sign of the *táboo*.

Formerly the whole of the clubs used to be engraved, 322
but now this ornamental work is confined 531
to the handle: it is executed with a great
deal of neatness. A shark's tooth used to be [412]
the instrument, but now they make a sort of [237]
graver out of a nail flattened, sharpened, and
fixed in a handle. Instances of their neatness
in this sort of workmanship may be seen in our
museums, and in the engraved representations
of other works.

Fy cava, shaving the beard. They have 305
two modes of performing this operation, viz. [413]
with the two valves of a certain kind of shell, [237]
which they call *bi'bi*, and with pumice-stone:
the latter is used by the party himself who
requires the operation; the former by those
whose profession it is to shave others. The
edge of one valve being pressed horizontally
against the chin or lip by the left hand, that
portion of the beard which appears upon it is
rubbed or filed off by the rough back of the
other valve. This operation is generally performed
once in about eight or ten days. The 854
heads of infants are always kept closely shaved; 302
but this is done with a shark's tooth by the 237
mother.

Fe oomoo, the art of cooking. If refinement 252
in cookery be one proof of the civilization 262
of a people, the natives of the South Seas have

252 something to boast of in this respect; at least
262 the people of the Tonga islands can invite you
to partake of at least thirty or forty different kinds of *dishes*, consisting in or prepared from one or more of the following articles, viz. pork, turtle, fowls of different kinds, fish, yams, bread-fruit, plantains, bananas, cocoa-nuts, talo, and cabe, (esculent roots), and mahoá, a preparation from a root of the same name. We shall give a short account of the principal preparations of food.

Baked pork. The animal is first stunned by
252 a blow with a stick, and then killed by repeated blows on both sides of the neck. It is then rubbed over with the juicy substance of the banana tree, after which it is thrown for a few minutes on the fire, and, when warm, scraped with muscle shells or knives, and then washed. It is next laid on its back, when the cook cuts open the throat, and drawing forth the windpipe and gullet, passes a skewer behind them, and ties a string tight round the latter, afterwards to be divided: he then cuts a circular piece from the belly, from four to six inches diameter, and draws forth the entrails*, separat-

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* He has already made a circular incision round the anus, and tied the rectum to secure the contents, lest the interior of the abdomen should get dirty, which they are very careful to avoid, as they do not otherwise wash the inside, which they say would spoil it.

252 thing that is baked, is dressed after this man-
ner; the larger yams being cut into smaller
[177] pieces. They perform the process of boiling
in earthen pots, of the manufacture of the Fiji
islands, or in iron vessels procured from ships,
or in banana leaves: they also occasionally
252 roast food upon hot embers. As to their made
262 dishes, the following is a list of the principal.

Vy-hoo; fish soup, made with a liquid preparation of cocoa-nut and water.

Vy-oófi; boiled yams mashed up with cocoa-nut and water.

Vy-hópa; ripe bananas cut in slices, and boiled with cocoa-nut and water.

Vy-chi; a sort of jelly made of *ma*, and the juice of the *chi* root.

Vy-vi; a sort of apple grated, mixed with water and strained.

Bobói; a preparation of *ma* and *chi*, forming a stronger jelly, but similar to *vychi.*

Boi; similar to the above, but not jellied.

Fy'caky' lólo toótoo; bread-fruit beaten up and cut into small pieces: it is eaten with a preparation of cocoa-nut, and the juice either of the *chi* or sugar-cane: it very much resembles, in appearance and taste, batter pudding, with melted butter and sugar.

Fy'caky' lólo mátta; same as the above, eaten with the expressed juice of the cocoa-nut.

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Loo-lolói; talo leaves heated or stewed with the expressed juice of the cocoa-nut.

Loo-effenico; talo leaves heated with grated cocoa-nut fermented.

Loo álo he booáca; talo leaves heated with a fat piece of pork, kept till it is *high.*

Loo táhi; talo leaves heated with a small quantity of sea water.

Ma me; fermented bread-fruit.

Ma hópa; fermented bananas.

Ma nátoo; fermented bananas well kneaded and baked.

Ma lolói; fermented bananas stewed with expressed juice of the cocoa-nut.

Lolói ſekke; dried cat-fish, stewed with the expressed juice of the cocoa-nut.

Loloi; a baked pudding made of *mahoá* root and the expressed juice of the cocoa-nut.

Tawgoótoo; a baked cake made of *mahoá* root, small pieces of cocoa-nut, and the expressed juice of the nut.

Fucca-líli; the powder of *mahoá* root sprinkled into boiling water till the whole becomes a semi-jellied mass.

Ve-hálo; a preparation of the substance of young cocoa-nuts, with their milk stewed together.

Awty'; the inside of young cocoa-nuts and the juice of the *chi* root mixed with the milk.

Pea o hifo leva ae hopa mei langi, ke tuu i Ata. Ko hono hingoa oe hopa koia, koe putalinga, koe hopa fungani lelei; ka oku ikai ha hopa ilaloni; ka koe tupu mei langi ae hopa koe putalinga. Pea toki movete ai o tuu kotoape i he fonua kehekehe; ka koe o hifo mei langi o fua tuu i Ata. Koe ngoue o Laufakanaa, pea o hifo ai leva moe akau koe si, hono hingoa. Aeni oku tao hono foha o ngau, pea ngaahi aki ae ma o hingoa koe poopooi, pea ngaahiaki ai mea kai kehekehe; he koe akau oku lelei, pea aonga; he oku kau foki ki he ngaahi mea kai kotoape.

Pea o hifo foki ae ufi; ko hono hingoa koe nguata, koe o hifo ia ke tuu i Ata. Pea o hifo foki ae ufi e taha, koe tuaata, hono hingoa, o o hifo foki ia o tuu i Ata. He koe ngaahi akau kai koia, koe tupu mei Ata. Pea koe toki fakatupu kehekehe e ngaahi tevolo niihi ae meakai kehekehe. He kou osi ae talanoa ki Ata.

And the native banana was brought 539
down from the sky and planted at Ata. The name of that banana is *putalinga*, a very nice banana; there was no banana here below, but originally there came from the sky the banana *putalinga*. Then it was scattered and it grew in all the different lands; however it came from the sky and first grew at Ata. Its (appearance on earth) was the work of Laufakanaa, and (he) also brought the plant called *si*. The [262]
root of this is baked and chewed, and is also cooked with native bread, and is called *poopooi*, and other kinds of food are made from it; because it is a very good root, and useful; therefore it is used in many kinds of food.

And the yam was brought down also; its name is *nguata*, and it was brought down to plant at Ata. And was brought down another yam, called *tuaata*, which was planted at Ata. All these food plants grew first on Ata. And then some of the gods created other kinds of food plants. That is all of the narrative about Ata.

The printed Tongan tales of the origin of the first Tongan land do not 114
make it clear whether the Ata island, which the myths designate together 773
with Eua island as the first land, is the low Ata island lying a few miles north of Tongatabu or the lofty and probably volcanic Ata or Pylstaart island lying more than fifty miles south of Tongatabu. Collocott maintains 773
that it is the adjacent island that is meant and several elderly natives whom 124
I interviewed held the same view. Among these natives were two former 114
inhabitants of the distant Ata or Pylstaart. Furthermore, Tongan legends place the discovery of Pylstaart only a few generations ago. 773

On the other hand, Bishop Blanc[17] takes the stand that it is the distant 114
Ata or Pylstaart that is referred to in the myths, thus making the two first created lands (Eua and Ata) both lofty in contradistinction to the low-lying Tongatabu, later hauled to the surface with Maui's fish hook. Commander Wilkes, U. S. N.,[17a] and the Reverend Walter Lawry[17b] explicitly state (both from the same missionary source) that the Ata referred to is Pylstaart. No modern native evidence supports these assertions. How- 539
ever, Maafu's account[18] of the land-fishing of the Maui makes mention of 773

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[17] P. Soane Malia, Chez les Meridionaux du Pacifique, chapter 3, Librarie Catholique Emmanuel Vitte, 1910, Lyon, Paris. [113]

[17a] Wilkes, Charles, U.S.N., Narrative of the U. S. Expl. Exped., 1838-1842, vol. 3, p. 23, Philadelphia, 1845. [113]

[17b] Lawry, Walter, Friendly and Feejee Islands, 2nd ed., p. 113, London, 1850. [113]

[18] Fison, Lorimer, Tales from Old Fiji, page 144, London, 1907.

6: Collocott M-5 (no date) 1928 OU9 Tonga OU9

825 776 Maatu asserted that he always saw Seketoa when he went to sea, even in parts of the group far distant from Niua Toputapu. Once he was sailing between Niua Toputapu and Vavau. The sea was very rough, and he saw Seketoa swimming about on the surface in the form of a big sea-eel (*tukuhali*). Presently the eel sprang aboard close to Maatu. The men on the boat wanted to kill it, but Maatu prevented them, and picking up the eel, he threw it back into the sea, telling it not to come aboard again. In 1896 Maatu left Nukualofa for Eua. They stopped for the night at Eueiki, and in the morning found the sea very rough and the wind ahead. Against the wishes of the crew they sailed. The distance is not great between Eueiki and Eua, but by midday they were only halfway. As they sailed a great shark came alongside the boat, and Maatu remarked that it was the god from Niua Toputapu. Presently he saw the white mark in its side. The shark did not stay in the one position, but appeared here and there, and then was lost to view. When they reached Eua, Maatu was going ashore in the dinghy when a great fish appeared, and the man who was rowing became alarmed, and wanted to return to the larger boat; but Maatu made him go on. The passage back to the boat from the shore was also full of terrors for the rower, for the fish was lying off close to the opening of the reef.

HOW THE VETE WAS TAKEN TO HIHIFO

539 825 [776] Latukefu of Hihifo went to Hahake to visit the sister of the chief Tamale. When the visit was ended, and Latukefu was about to return home, Tamale's sister, desiring to make a gift to the departing guest, asked her brother what she could give him. Tamale thereupon sent word to his god Haitau[1], who appeared in the sea eel (*toke*) to take off his girdle of the fish called *vete*, and send it along for Latukefu. Tamale instructed Latukefu to go straight home, and not turn aside; but Latukefu disregarded this advice, and turned aside to various places, including the islet of Malinoa, and at all the beaches which he thus visited the *vete* is found.

Latukefu has the same lucky days for fishing as Tamale, namely *fakatolu* (or perhaps *fakafa* or *fakanima*), *punifanga,* and *matofi,* which would be a night or two after the new moon, and shortly before, and shortly after, the full moon (16, p. 170; 13, p. 213). Tamale must not go down to the beach when the *vete* come. Latukefu is not bound by this restriction.

THE BIRDS AND THE PLANTAINS

539 825 262 There were once two brothers, named Wise Malala and Foolish Malala, and they went one day and planted a plantain. On the following day Wise Malala sent his brother to see how their plantain fared, and he found that one leaf had sprouted. And so every day Foolish Malala was sent to look at the plantain. Every day for the next nine days he found that one more

6: Collocott M-5 (no date) 1928 OU9 Tonga OU9

leaf had sprouted, until there were ten leaves. On the eleventh day the fruit spathe had appeared, and on the eighteenth day the fruit was ripe. But on the nineteenth day he discovered that the fruit had all been eaten by birds. 539 825 262

Then was Wise Malala very angry, and bade his brother call a meeting of all the birds, and to allow no bird to be absent. When the birds were assembled Wise Malala questioned them in turn, "Fowl, who has eaten our plantains?" The fowl denied all knowledge of the deed, as did also the rail, the pigeon, and all the birds; none knew who was guilty.

Then Wise Malala inquired if any were absent, and the names were called, and it was found that the *misi* had not appeared. Messengers sent to seek the *misi* found that he was sick; so orders were given to carry him to the meeting. When he was brought and questioned he, too, denied all knowledge of the theft; but he was made to evacuate his bowels, and the excrement was nothing but ripe plantain. So the guilt of the *misi* was established, and he was seized and killed.

Since then the remains of plantain have not been eaten.

FLEA AND NIT GO FISHING

539
825

Fananga, isa,	A tale, ah me;
Kutu mo liha,	Flea and nit
Fa'u hona vaka,	Built a boat,
'Uli ki moana,	Sailed the deep,
Fusi ena 'ika,	Pulled in a fish,
Fusi fiefia,	Pulled with joy,
Fusi hake, fusi hake,	Pulled up, pulled up,
Koe matakelekele,	A matakelekele,[1]
Ha 'ika e faikehe;	Strange-shaped fish;
Muimui mo ha'ele,	Put about, sailed away,
Tau ki Ha'a-pepe;	Reached Haapepe;
Muimui mo fenatu,	Turned again, sailed about,
Tau ki Ha'a-tafu.	Reached Haatafu.[2]

The following four lines given as the closing portion of the foregoing verse, seem to have no close connection. They may be a fragment of some other verses.

Kuli fekai	Fierce dog
Ne a'u ai 'a Tonga ni,	Reached Tonga here,
Peau tauhele'ia,	And I trapped him,
Talu ai ene mate pe ia.	Ever since he has been dead.

THE CLUBFOOTED CHILDREN

There was once a married couple who dwelt in the midst of the forest. 539 In course of time the woman bore a son, whose feet were deformed. The woman abandoned the child, for she was ashamed before her husband of its deformity. Now a demon[1] seeking food found the child, and took him

NOTES

Page 8. Maui in Eua

1. The *si* is apparently the well-known *Cordyline terminalis;* the leaves used in 539
making girdles, the root for sweetening food. Pratt (30) says that in Samoa the root 823
was used as food in times of scarcity. Doubtless the Tongans also ate it when other 103
food was not plentiful. 824

Pages 10-11. Stories of Tongatabu [262]

1. Vaileua, called also Touia. Possibly one name is that of the ground in which
the pool was situated, and the other that of the pool itself. 539

2. No other occurrence of the word *haulefe* is known to me. 823

3. A party which includes one chief or a number of chiefs is referred to collec- [103]
tively as *houeiki* (chiefs), and chiefly language is used with reference to them. [704]

Page 11. The well Veemumuni [195]

1. The term *vai* (water), here translated "well" is applied to lake, spring, pool [773]
of fresh water, the sea, and river, frequently without distinction, but descriptive words
are sometimes added, for example, *vai-tafe,* flowing water (river); *vai-tapu,* springing [192]
water (spring).

Page 12. Road to Pulotu

1. Smith (33, pp. 35, 36) thinks that in this duality of position of the Spirit- 775
world, which is common throughout Polynesia, there is a confusion of two meanings 823
of *raro, lalo* (*ao*), down and west. 171

Page 16. Tuipulotu's house in Pulotu

1. Tuipulotu is a frequently occurring proper name, both of men and women. 192
Mariner mentions Tuipulotu as a minor god of the sea and voyages, and protector of 539
Finau's family (28, vol. 2, p. 107).

2. Accounts of Samoan marriage ceremony are given by Kramer (26, vol. 1, p. 38); 773
by Brown (6, p. 21); and by Collocott (11). 775

Pages 17-20. Lolongovavau, daughter of Hina and Sinilau [551]

1. It is not necessary to assume that every occurrence of the names Hina and [776]
Sinilau concerns Hina, connected with moon and sea, and Sinilau or Tinirau, son of [585]
the sun, connected with sea and fishes. I have heard the Tongan opinion expressed
that there is a tendency for stories of handsome men and their beautiful wives to [776]
attach themselves to the names of Sinilau and Hina. In this tale, however, there are [538]
many features of Hina stories.

2. The mother's side of the house is subordinate to the father's, and from that [611]
side is most likely to come such a guardian as Ofamaikiatama.

3. There are frequent mentions of speaking *puko* tree, or a speaking tree, but this [604]
identification of two trees, as indicated by the two expressions, is rare.

4. The expression *Alu hake ki mama* means "went up to light." The word *mama* [824]
(light) is a usual one for the world of human beings, and for human beings them- [192]
selves; Mamani, which apparently means this light, is practically a proper name of this
world.

5. Persons greeting one another commonly refer to what the other is doing; that [576]
is, Ofamaikiatama says "Malo e maimoa" (Malo the game), and Lolomatokelau re-
plies, "Io, malo e fononga" (Yes, *malo* the journey). The word *malo,* sometimes rather [192]
colorless, expresses thanks, approval, appreciation. A very common form of greeting
of people meeting on the road is the simple question "Were you in such a place?"

6. See p. 12 for reference to roads to Pulotu. Gifford gives Niuaunofo as the [823]
northwestern point of Tongatabu. This is a few miles north from the road to Pulotu
on the weather coast near the village of Foui.

539 associations with gallant adventures, or are suitable for lovers' walks. Such allusions are characteristic of Tongan poetry, which seldom deals in outspoken passion.

823 [103] 2. Falaovuna (Mat of Vuna) is a beach. Level stretches of sand or sward are not infrequently named *fala* (mat) of some notable personage of history or tradition.

[192] 3. "Landsman," that is one unskilled in things of the sea; here, a man unskilled, unsuccessful, in love.

[226] 4. Two rods are placed out over the stern of the canoe in bonito fishing. The inference is that the gallant has won the favors of two ladies.

[192] 5. The line means "my ivory [hook] with a fringe or decoration of red-birds' feathers"; hence a hook that is valuable and attractive. A variant can be translated "feather of double bird."

[192] 6. The word *lafo* (thrown) is used of presenting mats.

7. The ill-fortune is that the poet has gone off the track and almost passed without mention a place that should be mentioned.

8. Kaunimasini; an overhanging rock.

9. Makaoo; a rock.

[103] [192] [226] [262] 10. Holoni is the name of some scattered bowlders at the foot of one of the Vavau cliffs. The phrase means an unsuccessful fishing day, an interpretation is that these rocks are washed by the sea, but do not take any fish; that man will endure being wetted by the sea because he gets fish, but a rock has no such compensation. Possibly the idea that this is not a good fishing place is included in the expression and also a reminiscence of an unsuccessful love affair of the bard's. Besides meaning washed by the sea, the phase signifies boats getting together and sharing provisions. Crews will not eat while bonito or shark are in sight, so there is the possible interpretation of getting together to eat because there is no fishing worth troubling about.

11. Tave, a cliff.

12. Potuitoume, a rock standing in the sea.

[192] 13. The *pipihele* is a plant (*Hernandia moerenhoutiana*).

Page 106. Vavau

1. The poem celebrates the beauty of Vavau, a theme worthy of the muse. In form it is an imaginary excursion over headlands, hills, and beaches. Many of the places named are *matanga* (lookout places, eminences), many on the coast, whence a good view may be obtained.

[103] 2. Kafoa and Aloitalau (or simply Talau) are hills.

3. Tuanuku, Teleki, Fau, Pau, and Utukalongalu are names of beaches. The following five lines contain names of *matanga*.

4. Finemaukava is a *matanga*.

[103] [361] 5. Paleamote and Kalae are the names of two *api* (tracts of land, compounds). There is no one English word to render *api*. It is the nearest equivalent to "home."

6. Fukotokanga, Fukomafa, Fakatoumamana, names of *api*.

7. Two *matanga*.

[103] 8. Sisilouango and Tatauoalo, names of *matanga*.

9. Vaimasiniake, a pool.

[776] 10. Potuitoume; a rock standing in the sea. The word means end or stump, of a torch. A goddess (Hina?) went fishing with a torch, and when she had finished she threw the end of it into the sea as she went ashore. This rock is the end of the torch.

Pages 106-107. Weather coast of Selenga

1. This poem is in praise of a locality named Selenga, which is evidently on the weather coast of some part of Vavau. Not all of the names mentioned have been identified, but those that have are of places in Vavau.

2. The name Koate is unidentified. There is a Vavau chief of this name.

3. The line *Malama e taulaki penepena* interpreted means, "Gleam [the chiefs who have] dressed their heads with lime."

[551] [103] 4. Taiheunga (Smite the crab) and Mahinaea (Appearing moon) are the chiefs whose beauty fresh from bathing is spoken of. It is possible, however, that these are place names.

[343] 5. I was unable to find the meaning of *tofalea*. (Compare the Samoan, *tofale*, to build houses.) Houses were built on mounds, *kolonga*, near the *sia*, to keep apparatus

7: McKern A-4,5 (1920-1921) 1929 OU9 Tonga OU9

172 764 were particularly fragile. No artifacts of any kind were found with the burials, although a dark discoloration of the sand immediately surrounding each burial may have been caused partially by the decay of perishable materials placed with the dead.

172 [252] There can be no doubt that the surface of the mound was covered with a layer of kitchen refuse, thus confirming the statement that the mound was at one time the site of a god-house, the dwelling house of a priest. Cooking was never undertaken in Tonga within the house, but the mound was sufficiently large to accommodate both house and cooking place. The condition of the ovens indicates that they were not used at a very recent date.

It is equally evident that the body of the mound constituted a burial place. All facts point toward a rather primitive interment. The condition of the skeletal material was comparatively good, in spite of a wet climate conducive to rapid decay. The position of the burials above the level of the surrounding land, and the sandy material surrounding the bones, combine to establish ideal drainage conditions and to favor long preservation. There were no signs of intermingling of the kitchen refuse with the clean sand body of the mound. A sharp line of demarkation extends between the two elements throughout the excavated area. The fact that the burials preceded the deposit of the surface stratum is emphasized by the occurrence of an earth oven directly over two of the skeletons.

● [262] [354] If the traditional account is to be credited, the surface deposit of the mound had been completed previous to the middle of the nineteenth century, but nothing positive can be said concerning the age of the bottom of the kitchen deposit. Such deposits may accumulate rapidly in Tonga, owing not only to the great number of marine shellfish eaten by the natives, but more especially to the fact that the coral oven-stones had to be replaced after two or three bakings. On the other hand, examination of a kitchen midden on this same island (p. 102) produced evidence that a very thin deposit of such refuse could represent an appreciable passage of time.

The question arises as to the length of time elapsing between the last burial and the erection of the god-house. In consideration of the great respect shown by the Tongans towards the dead, it is hard to believe that even a god-house would have been built upon a known burial site. This consideration suggests that the house was not built until the inhabitants ceased to remember the mound as a place of burial and, therefore, the interments appear to have been at least prehistoric. According to Sullivan (21), the bones are Polynesian in type. The pottery found in this mound is discussed on pages 115-116.

EUA SITES

133 The island of Eua, ten miles southeast of Tongatabu, is 30 miles in circumference and more than 1000 feet in maximum height. On the northwest

128 [538] ship, and fishing furnished many proverbs. Under some of the most important and interesting headings the number of expressions is disappointingly small; but we have had to take the language as we found it.

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113 of the late Rev. S. Rabone, has already been mentioned. We have also derived considerable assistance from the Dictionnaire Toga-Français issued by the Marist Mission in Tonga (Paris, 1890), Pratt's Grammar and Dictionary of the Samoan Language (Fourth Edition, Samoa, 1911), Dr. Augustin Krämer's Samoa-Inseln (Stuttgart, 1902 and 1903), and to a less extent from Hazelwood's Fijian Dictionary (second edition, edited by James Calvert, reprinted, London, 1914).

GARDEN AND FARM

539 1. **A fakaamu mei:** Waking wanting breadfruit.

578 [262] [103] Apparently mildly abusive of the people of Haapai, who are supposed to be not so well supplied with yams as are the people of Tongatabu, and accordingly are more dependent on the breadfruit and other plants. There is an anchorage in the island of Lifuka in Haapai, very close to where the "Port-au-Prince" was attacked, if not the identical spot, called *Fakaamumei*, "Wanting breadfruit," said to owe its name to a chief who used to live in the vicinity, and who in some way became famous for wanting breadfruit.

2. **Api faa toe tuu ai ae teve:** In the well-stocked farm still stands the *teve*. 539 262

The *teve* (Amorphophailus) grows wild in the bush. Its root has an acrid taste, but is nevertheless sometimes eaten in periods of scarcity. The true farmer, however well stocked he is with other food plants, will not neglect this unpalatable shrub which will be a stand-by in case of the failure of his other crops.

3. **Fakamotua ke tao ha tua:** Playing the old man to bake a *tua* (a fine kind of yam).

The *tua*, in addition to being a specially good sort of yam, is also one of the hardest varieties to cultivate, and the man who can grow them well is obviously a real farmer. This phrase is a rebuke for a lazy man. Do you expect that sitting down with folded hands like a decrepit ancient is the way to get these fine yams to bake and eat? [244] [626]

4. **Halahala a maala keli:** Misses of well cultivated garden, that is, a yam garden in which the soil is loosened to a good depth and where fine large pieces of seed yam are used. 539 244

In such a plantation there may be some holes which miss, but those which do grow well will have such large roots as to compensate for the failures. Applied especially in such sports as boxing, fishing and the like, to one who may fail often to get his blow home, or to catch any fish, but when he does succeed scores so heavily as to redeem his previous failures. [526] [226]

5. **Holi ke utuutu i he maala utu:** To desire to glean in a plantation that is being harvested.

Utuutu is to look for yams in the bush growing wild on the sites of disused gardens. What one finds in this way he is welcome to, but such gleaning must not trespass on gardens which are still being used by their owners. [423]

6. **Huo hoko hoka huo:** Digging together, spades clashing. 539

If two men are working close together and one strikes his spade against his companion's the accident is likely to prove annoying and lead to a quarrel. The expression, therefore, is an injunction to keep strictly to the line of one's own job without irritating interference with neighboring laborers. 578 461

7. **Kaka tuu ofi:** Barren soil near at hand.

An inferior piece of ground conveniently close is more likely to be cultivated than better soil at a distance. The thing of fair quality that is near is better than a superior thing at a distance. A bird in the hand is worth two in the bush. 539 241

8: Collocott & Havea M, I-5 (no date) 1922
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539 **34. Hange ha tua-niu:** Like the midrib of a coconut leaflet.
824 Used of thin persons or animals, and of small, thin things in general.

826 **35. Hange ha vai fa:** Like pandanus water.
539 The meaning is, scattered in all directions like the water dripping on
824 all sides from the leaves of the pandanus during a shower of rain.

36. Hange ha vao masalu ngaue: Like a field of waving *masalu*.

The *masalu* is a small plant found in quantity on the prairies of the island of Eua. These plants stand close together, and when the wind blows graceful undulations pass over the surface of the field, not unlike the waves that pass through a field of standing wheat. Applies to graceful action. (Compare No. 179.)

539 **37. Hange kuo kai teve:** As though had eaten *teve* (*Amorpho-*
262 *phallus campanulatus*).
This plant causes stinging and inflammation in the mouth, and may
[137] even bring on death. (A. Krämer, Samoa-Inseln, II Band, p. 384.) By
proper treatment, however, it may be made fit for food. Used of one who
has done something which he rues.

539 **38. Heka he vaa mei popo:** Getting on the branch (that is)
571 almost rotten.
This has its obvious application of depending on a weak support.

539 **39. Hoko pe fau moe fau:** Joining hibiscus with hibiscus, or
824 hisbiscus coming after hibiscus.
The comparatively tough inner bark of the wild hibiscus (*Hibiscus*
[283] *tiliaceus*) is frequently used as cord, and the expression for hibiscus to be
[554] followed by hibiscus is very commonly employed of a strong capable man
in any position being followed by another whose qualifications are equally
539 good. It is said that in former times when a Tui Tonga died the body
643 was not buried in the usual way, but that the head and legs were cut off
764 and replaced by the head and legs of another man slain for the purpose.
Should this victim be a chief the joining of his head and legs to the trunk
622 of the dead Tui Tonga was said to be a joining of the hibiscus with the
565 hibiscus. There is actual tradition of a Tui Tonga whose body had been
disfigured by a rail being supplied with limbs for burial by the devotion of
another chief.

539 **40. Hoko ae fau moe polata:** Joining banana stem with hibiscus,
824 or banana stem coming after hibiscus.
554 This is the reverse of No. 39 and indicates a strong capable man
643 being succeeded by one of inferior qualifications. This too, is referred
764 to the burial of the Tui Tonga. If the man who supplied the legs and
565 head to be interred with the Tui Tonga's trunk were of low rank a piece

8: Collocott & Havea M,I-5 (no date) 1922
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of banana stem was said to be joined to the hibiscus. A strip of the banana stem of course makes a very poor ligature, being loose fibered and brittle.

539 824 554 643 764 565

41. Hu mata niu: Entering eye of nut.

There are three depressions at the top of the coconut, but only one of these marks a hole. The unskilled person might try to open the nut by piercing one or other of the two false eyes, but the experienced man goes for the right hole. Hence the expression means to get right on the spot, but is used in the bad, or at all events unpopular, sense of kindness confined to one's own immediate relatives or friends; kindness confined to one particular spot.

539 245

42. Kai kape fifiji: Eating hot *kape* (*Arum costatum*).

One who has eaten a piece of this root at the pungent stage of its growth will find his mouth so burnt that he will not be likely to join in the conversation and laughter of those about him. This picture of the man sitting silent with his stinging mouth is used of one who, ashamed of a wrong done by him, or for some such reason, sits taciturn in the company of others.

539 262 [137] [521]

43. Koe vaavaa he koe tagata: Branchy, for 'tis man.

Man, with the wide and numerous ramifications of his relationships, is the most branchy of all things. "Do you call so-and-so a many branched thing? Why, it is nothing compared to man."

539 824 829

44. Malakia a moojipo: The *moojipo* trodden down.

This plant is frequently found in the road-ways, but lives on in spite of being walked upon. So the *moojipo* has passed into a proverb of that which bears up stoutly against ill-treatment and adversity; comes up smiling after every blow.

539 824 571

45. Mamalu a mohuku: Overshadowing of grass.

One is overshadowed by forest trees, and this means literally one who undertakes to make a clearing on land where apparently large trees are standing, and finds that the "trees" are but weak and easily cut plants, "mere grass." So of any task seemingly formidable which, when undertaken, proves easy.

539 461

46. Motu lou-tou: Broken *tou* leaf.

The leaf of the *tou* (*Cordia aspera*) is very brittle; a slight pull snaps the leaf completely asunder. So used of that which is broken right across, completely severed.

539 824 [139]

47. Nonofo ae makahunu moe niu motuu: The *makahunu* (hard volcanic rock) living with the ripe coconut.

These rocks were used for making the stone adzes and were handy for splitting open a coconut, and breaking it up if necessary. The phrase,

539 245 412 829

539 On board the *Lomipean*, however, was a man named Lasukau who disre-
252 garded this rule and moved things round at his pleasure; but no one dared
372 to remonstrate with him because of his personal strength and prowess. For
501 one to place his *lepo* at the side of an oven is to mark that oven as his; for
571 another to move this *lepo* is to disregard the claims of the first man.

539 **60. Hina e toumohomoho:** The plantain leaves (*toumohomoho*)
252 are white.

824 Plantain and banana leaves are used for covering up food in the native oven. When the food is taken up these leaves are called *toumohomoho* and are used to line the baskets in which the food is taken to the house where it will be eaten. These leaves are then cast aside as of no further use. At first they are green, but as they fade their color becomes whitish. If one sees such leaves lying about a house their color is an indication of how long they have been there, so that to say that the leaves are white means that it is a long time since there has been a feast.

539 **61. Kailu fa he tuunga u:** To rummage for scraps in the middle
252 of the oven.

777 This is used of one whose aims are humble but who meets with an
372 unexpected stroke of luck. Just as the man who, searching for remains in places where food has been cooked or eaten, suddenly comes upon unanticipated plenty, here denoted by the middle and lowest part of the oven where the food is most in quantity and best in quality. *Tuunga u*, translated the middle of the oven, means literally the standing-place of the *u*, the stick with which the hot stones are arranged in the earth oven. This stick is used to arrange the stones up the sides of the hole, beginning at the bottom, so that the standing-place from which the stick begins its operations is the lowest and midmost part of the oven.

539 **62. Kina umu tala ki tahi:** Depending on the sea for the meat
226 part of a meal.

Looking to an uncertain source of supply; trusting to a capricious support. So many are the hazards of the sea that there is a very good chance of a late dinner if the joints cannot be found ashore.

539 **63. Kuma jii vela hono iku:** Little rat, his tail burnt.

262 Formerly the native rat, a vegetable feeder, was used for human food. The rat at best is but a small animal, and therefore when he is being cooked care should be taken not to burn his tail off. Being served with tail complete makes the most of what size he is. This expression, an expostulation against burning off the tail of the rat, has passed into a proverb for conserving as carefully as possible all there is of any small object.

64. Namu ma ka nae ilo ahoa: Smelling of bread but known by daylight. 539 262 252

The word translated "bread" indicates the fermented paste of the breadfruit and other plants. The fruits were buried in pits and kept for long periods. This fermented paste made up in little balls and cooked, is a nourishing and tasty food. Most strangers, however, are debarred from sampling it by the initial difficulty of overcoming their repugnance to this dainty's extremely gamey perfume, which is as objectionable to the European as some cheeses are to the Tongan. The expression originates in the story of the handsome man *(manaia)*, Vainuku of Eua. A certain Female Tui Tonga, went to Eua to see Vainuku, and on landing on the island sent one of her women to procure fire. In spite of his attractiveness Vainuku liked making up and cooking "bread," and the woman found him in the cookhouse engaged in preparing food for the recently arrived visitors. The woman pulled off Vainuku's turban, and seeing him with head uncovered knew who he was, for it was his hair that was his chief beauty. When night came Vainuku went to court the lady visitors, but they all cried out in disgust at the man smelling of "bread," until he came to the woman who had seen him in the cookhouse; she, having seen him by daylight, knew who he was.

65. Nofo e fononga kae ui moa: The visitors having no share, but calling fowls. 539 574

This indicates a man who calls the fowls, not to entertain his guests as he should, but for some other purpose.

66. Ota fuifui vai: Raw fish rinsed with (fresh) water. 539 262 252

Certain sorts of fish are often cut up and eaten raw. The flavor of such fish is most appreciated when they are rinsed with sea-water; they are held to be spoiled if fresh water is employed. This is spoiling a good thing by bad handling, and is applied to one who seeing something he likes, for example, an article or piece of work, tries to make one of the same sort for himself, but bungles it. He spoils a good pattern by his unskillfulness.

67. Ota tae fuifui: Raw fish not rinsed.

Raw fish is usually rinsed with sea-water before being eaten. This is used of a thing not properly done.

68. Tae ngali vai: Unfit (for) water, or perhaps unworthy (of) water. 539 262 252 829

This expression is used of one who has a good reputation and does something unworthy of himself. Literally this expression seems to refer to the eating of raw fish, as No. 67, and to the undesirability of preparing the fish with fresh water. A good fish spoiled by the wrong sort of water; and so a good person spoiled by the wrong sort of behavior.

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539 **69. Paki ua uli taki taha vau:** Break in two—dirty. Each one
252 scrape.

264 Refers directly to food such as the yam which has been baked in the embers. Ordinarily the yam, for instance, when taken from the fire would first be scraped clean and then divided among those who are to eat it. This indicates that there must be haste. The yam taken from the fire is to be divided while the charred outside skin is still on, and each one will
[574] clean his piece for himself. One of the commonest motives urging to such haste would seem to be the apprehension that an unwelcome visitor will soon be coming to share in the meal. Generally of that which is to be done quickly.

539 **70. Poto hono fijifiji kae vale hono fokifokihi:** Skilled at its flip-
252 ping but unskilled at its turning.

The Tongans flip cooking food with the nail of the fore-finger to test whether it is done or not. Food being cooked in the embers must be turned from time to time. The phrase indicates a man who does none of the work, is not willing to give the food a turn now and again, but is to the fore when it comes to finding out whether it is done or not. Obvious application to a lazy, greedy person.

539 **71. Talia a umu kape:** Waiting for a meal of *kape (Arum costa-*
262 *tum).*

At certain stages of its growth the *kape* is too pungent to be eaten.
[137] Hungry men, therefore, may wait for a meal of this root to be cooked only to find after all that they cannot eat it. So the expression is used of disappointed expectation.

539 **72. Teka a ma momoko:** Chucking cold *ma* about.

Ma, applied now to European bread, is the fermented fruit of certain
252 plants, most commonly of the breadfruit, prepared by burying it in pits.
262 This method of treatment, which is falling into almost complete disuse,
251 was a very common and successful way of preserving a supply of food. Not only was the uncooked food thus kept for an indefinite length of time, but when cooked it remained good for a long period. One could throw it about anyhow and it still turned up good when wanted again. So of anything which, in spite of hard usage, is still good when wanted.

539 **73. Toki kovi a niu lelei:** Good nut is just bad.

262 Coconut is much used and highly esteemed in Tongan cookery. An
252 article of food which cannot be rendered palatable by coconut must be very bad indeed. The upshot of cooking such a hopelessly unpalatable article with nut is that so much good coconut is merely wasted. Generally of that which is so extremely bad that contact with what is good cannot improve it, but the whole lot is wasted and spoiled.

A story connected with this phrase is that the notorious cannibal
[264] Kaifakaau, who was alive at the time of the introduction of Christianity, once tried the experiment of cooking the genital organs of a woman with

coconut, but found that he had produced a most unsavory dish and had to 539
throw it all away. He had merely wasted so much good coconut. 262
252

74. Ua ji ua pooi: Eating *ji* eating *pooi.* 266

The *pooi* is a preparation of food, which before the introduction of 539
sugar used to be sweetened with the root of the *ji (Cordyline terminalis).* 262
If one ate up the *ji* beforehand he would have to go without the *pooi.* You 263
cannot eat your cake and have it.

75. Umu toona e he vale: Food cooked by the fool. 539

Good food that has been spoiled by a bad cook; anything good that 252
has been spoiled by bad treatment.

EATING AND DRINKING

76. Aho kai fonu: Day on which turtle is eaten. 539

The turtle is a luxury, hence day of treat. It is said that this ex- 262
pression originated with a love adventure of the handsome Lepuha, who lived at Leimatua in Vavau. This good-looking and amorous gentleman came in his wanderings to the house of a woman who lived at the back part of the island, and whose face was disfigured by ulceration. Lepuha had intercourse with the unfortunate woman, who said to him as he was about to depart, "This is a day on which turtle has been eaten." Lepuha ungallantly replied, "*Mavae lua,*" that is, "Going away and vomiting," implying the disgust which he felt at having cohabited with so grievously disfigured a woman. This phrase, *Mavae lua,* is used proverbially for the after disgust one may feel at something he has done.

77. Mavae lua: Separating (and) vomiting. (See No. 76.)

78. Fakahali a vale: Making slip of foolish, that is, the foolish 539
person's way of making food slip down. 264

Fakahali, making slide, means moderate eating, but the moderation 183
of a foolish person, or of the improvident young, is to eat to repletion without a thought for the future or for anyone who may go hungry just beside him. Applied to eating the expression means to attend only to one's own appetite without regard for others or for the future. Used generally of improvident, foolish conduct, as of a man who is not a sailor going out by himself in a boat or of one who is not a carpenter undertaking to build a house.

79. Fakaua mea melie: Hungry for sweet things.

Baker renders: "To wish to eat sweet or superior food only." It might be used of one who desires only the good things of life.

539 **80. Fakauloula kai:** Doing a dance with the food.

264 A man who is distinguishing himself by fine trencher work, blissfully unaware that his performance is not giving as much satisfaction to his hosts or co-diners as to himself, may be called to his bearings by being asked not to do a dance with the food. An explanation has been offered to the effect that as the onlookers derive pleasure from the dance, so the greedy man behaves as though the spectators derived satisfaction from his exhibition. It may, however, be nothing more than a reference to the nimble movements that the food is being made to execute.

81. Fangafanga uu tau he tae: Preparing to eat, getting to rubbish.

Disappointed expectations, as of one who anticipates food, but finds that there is nothing but rubbish (literally dung) to eat.

539 565 **82. Fie uo kae kaipo:** Wanting friends (literally crowd) but selfish.

622 554 This is primarily applicable to the chiefs, about whom the people were wont to gather. A chief who treated his people kindly and fed them well would find many happy to live with him. A chief who selfishly ate the best of everything himself was not taking the right measures to attract about him a numerous body of followers. So used of a man who, for the sake of prestige or companionship, desires to have many people about him, but who is too selfish to treat them with that generosity which will win their esteem and make them contented to live with him.

539 262 **83. Hange ha inu vai lolo:** Like drinking oil liquid, that is, liquid adjunct to food into whose composition the expressed milk of the coconut has entered.

Coconut enters very largely into the preparation of native dishes and is also used alone as a relish to yams and vegetables in default of meat. The phrase indicates one who, if nothing better is offering, is quite ready to enjoy his food with a little coconut milk as the only relish. So used of a man who is easy to suit in the matter of food, and who shows no fastidious preferences.

539 272 **84. Inu ti inu kota, Kakapapalangi fakatonga:** Drink tea, drink *kota;* European fashion, Tongan fashion.

273 177 The *kota* is an infusion of fermented coconut which has been ground and strained. The phrase, which is of course modern, indicates one who at one time is anxious to adopt European standards and modes of life and at another clings to the old Tongan ways.

539 **85. Jii a maanga ngako:** Small mouthful (but) fat.

264 A small quantity of food which is tasty and luscious. Used generally of that which is small in quantity but of excellent quality. (Compare No. 203.)

86. **Kai-aji fakatuha umu:** Diner-out correspondent with food. 539

A man who keeps his eyes open and regulates his visits to other 574
people's homes to correspond well with the times when a meal is to be got. (Compare No. 187.)

87. **Kai halafaki:** Eating on the short-cut.

This is not a very satisfactory translation. The word *halafaki* means 539
to go round by some other track and wait on ahead for those who are 264
coming along the ordinary road. As applied to eating the idea is to take food before the regular meal comes on, and thus to get ahead of others, waiting with satisfied hunger for them to catch up.

88. **Kai malo ta-foa:** Eating kindness that wounds. 539

Indicates a kindness that is spoiled by the way in which it is done, 431
as of one who makes a present of food to another but accompanies his 578
gift with unkind remarks. The recipient may eat the food but he is 576
wounded by what it said to him. So generally of apparent gratification with that which hurts.

89. **Kai meakai kovi:** Eat bad food. 539

Get into trouble, be in difficulties. 264
183

90. **Kai mea vevela:** Eat hot stuff, that is, to get into trouble.

91. **Kai melie:** Sweet food.

Used of that which is specially good, or of persons of unusual excellence. It is used of Goliath in the best translation of the Bible into Tongan (that of the late Dr. J. E. Moulton).

92. **Kai umu aipe foi i he ngaue ae malohi:** Coward ever eating 539
food through the work of the strong. 264

One of those bitter plaints, common the world over, of one man doing 571
the work and braving the danger whilst another reaps the benefits.

93. **Kaikai afua:** Eating delicately, with special likes and dis- 539
likes. 264

Especially refers to the desire of a pregnant woman for particular 843
foods, and used proverbially of conduct like that of a pregnant woman, or befitting a pregnant woman.

94. **Koe kai ika po ae jio ki motu:** All the fish eating is looking 539
at (or thinking about) an island. 484

If one stays at one of the small out-islands he will probably be well 262
placed to get as much fish as he wants. Should one wish to go away for 152
a holiday on an island, and enjoy the plentifulness of fish, but finds him-

539 self unable to make the trip, as for example, through lack of a boat, it is
484 said of him that all the fish he will be able to get will be by thinking about
262 the island; he will have a purely imaginative treat. The expression is used
152 of unsatisfied desires generally, as of a man who wishes to marry a particular woman but can get no further in his courtship than going to visit her and seeing where she lives.

539 **95. Koto kai a kui:** All the eating of a blind man; the reckless
264 eating of a blind man.
183 Used of that which is done recklessly, ignorantly, like the blind man who cannot see to choose his food, but eats what his hand lights on.

96. Kuhu te elo pato te emo: Puffing at the stink smacking in licking, that is, to utter the wry-faced "pugh" characteristic of one offended by a bad smell, and at the same time to make the clicking or smacking noise of one who is licking up food.

Used of those who eat bad food in spite of its offensiveness.

Linguistically this is very interesting. The word "*te*" is apparently
[197] the article found in Maori and many other Polynesian languages (Hawai-
[192] ian, *ke*) although not found, at least as an ordinary article, in either Tongan or Samoan.

97. Longo moe fatu: Silent with the belly.

Applied to one who sits silent under rebuke, making no effort to exculpate himself, but whilst he is thus tacitly accepting the blame of what is charged against him, he is also enjoying its benefits. The original idea is that of one who has eaten to full satisfaction where he had no right to eat. When reprimanded he sits silent accepting the blame, but he sits silent with a full belly.

539 **98. Pani puaka pani fonu:** Smeared with pig, smeared with
262 turtle.
554 The pig and the turtle are favorite and valuable delicacies and will be found more in the abodes of the chiefs than anywhere else. For anyone to carry about on his person the smell of this rich fare is a sign that he is a person of some consequence.

539 **99. Nifo tuu he vale:** Teeth in a foolish man.
829 Good instruments thrown away on one who cannot use them. The wise man procures food for his teeth to chew, but the fool is unable to make this provision.

539 **100. Pipiko moe nifo:** Lazy with the teeth, lazy although there
461 are teeth.

Men have teeth with which to eat, and hands with which to work and to get that which will satisfy the teeth. This is used of a lazy man

who refuses to work and get that which will meet the legitimate demands 539
of the teeth. 461

101. Teu ke hihi kae ola: About to cut out but gnawing. 539

This refers primarily to the coconut. A nut has been split open in 264
order to cut the flesh out with a knife when someone greedily seizes it 576
and chews the flesh out with his teeth, a thing befitting an animal or bad-mannered man. May be applied to a thing which is about to be carried out in a proper, decent way, but is actually done in an unseemly manner.

PRESENTING, BEGGING, KEEPING FOOD

102. Kai pe lea: Just eating speech. 539

Used of a man for whom there is no portion when the food pre- 264
sented to a chief is divided and distributed, but to whom the chief speaks. 554
The individual thus honored by the chief will feel that he has after all some part in the ceremony although he has not received a present of food.

103. Koe ma ka te mate: Ashamed, but I'll die. 539

Used in the first place of begging food. What is the use of being 431
ashamed to ask for food, seeing that if you do not get it you will die, or 735
be very hungry. (It is very common in Tongan to say that one is *mate*, dead, of hunger, thirst, of desire for some thing, without indicating any extreme stress.) This expression is applied generally to making requests of any kind.

104. Motu ka nae navei: Broken but it was bound. 539

Navei are small cords passed through the top of a basket, especially 415
of food, and fastened round the pole on which it is slung. These cords 482
are not the main lashing, which is a long cord or vine passing several times round the basket and pole. The idea is that although the large lashing has been adjusted yet it is well to avoid risks by adding these auxiliary bindings. The expression has this sense of making assurance doubly sure. Sometimes the phrase is rendered, *Motu ka nae kavei*, which has the same meaning as the above except that the *kavei* is the main lashing. This, which seems to be more familiar to the younger generation of Tongans, may be applied to a mishap which has not been the effect of negligence.
There has been an accident but those whose business it was to look after [829]
the matter in question evidently did their work carefully and thoroughly.

105. Pula a kaiaji: Sending a forager. 539

When one is sent to procure food for a party he will be the first to 156
eat of what he has obtained. So used of one who is the first to reap the 571
advantage of something that he has been sent to do, or to get.

106. Ua ma kae mae ma: Eat *ma* but be careful of *ma*. 539

Ma is the food made from fermented fruit. This expression indi- 262
cates literally one who has a supply of *ma* of his own, but is very sparing 183
571

539 of it, and when he wants to eat, begs food from someone else. Generally
262 of selfish behavior of this sort. (Compare No. 134.)
183

571 **107. Tufa kau tufa:** Distribute. I'll distribute.

539 Primarily refers to one who is not satisfied with the share which falls
431 to him in a distribution of food or goods, but who promises himself to even
571 things up when his turn comes to direct the apportionment of gifts. Go ahead now with your distribution and give me this miserable little portion, but the time will come when I have my turn at dividing and it will be a small gift that you will get then. Thence used generally of tit for tat.

108. Tuku umu fakavajivaji: To leave food in the Vajavaji way.

Vajivaji is the name of a people in Fiji, who when they take a present of food to anyone have the custom of waiting to get a portion for themselves. This has become proverbial in Tonga for giving a thing and then asking for a portion of it.

539 **109. Umu pouli kae ai hoota:** Food in the dark but with a friend
264 there.

572 When food is taken up from the oven in the dark there will be more or less of a scramble in which some are likely to come off badly, but a man who has been so placed that he cannot very well look after himself will yet fare very well if he has a well placed friend who is mindful of his interests. It is applicable to those cases, very numerous in civilized as in more primitive societies, where in the distribution of favors the influential man on the spot remembers his less advantageously situated friend.

539 **110. Uto taunga mo kuma oku ua:** Coconut pith put away to
262 keep and two rats.

The *uto* is the sweet spongy substance inside a coconut which has germinated. It is frequently eaten, as a sweetmeat rather than as a regular food, and was particularly used to pacify children. Should some of this be put away to keep for another occasion and one rat find it out there will probably be something left over for the original owners, but if two or more rats get to work on it the whole will soon be finished. So the expression is used of anything which the owner is reserving for himself, and which other people, not merely a single person whose appetite might be satisfied while there is still something left, but a number, find out and wholly consume.

DOING OF TASKS. CRITICISM

539 **111. Fai faka-muomua-nima:** Do with front of hand.

461 Doing a task half-heartedly, touching it, as it were, only with the tips of the fingers instead of grasping it heartily and sincerely with the whole hand. (Compare No. 416.)

145. Liu ka moko: Lizard climbing upside down. 539

The lizard comes down a tree head first, and there is occasionally a 825 man so skillful in climbing that he is able to imitate the reptile in this. To 554 such a man this expression would be applied, but it is used generally of one who has some special way of his own of doing some particular feat or who possesses some extraordinary skill that enables him to bring off feats that the ordinary mortal would scarcely attempt.

146. Moko looa: Choking lizard. 539

Applied to a person whose neck is stretched out like that of the lizard 825 in his distressful attempts to swallow. (Compare Nos. 167 and 177.) [264]

147. Kuma aka ki he pusi: Rat kicking at the cat. [571]

Generally of the weak behaving presumptuously to the strong. [157]

148. Pekopeko a pusi kai moa: Quiet mournfulness of a cat that 539 eats fowls. 825

The hypocrisy of one whose sad-eyed propriety in the presence of 829 others is belied by the mischief to which he readily turns when free from 577 observation is likened to the conduct of the cat whose demure abstention 157 from chicken flesh does not outlast the presence of human observers. (The cat, with its English name *pusi*, is a late introduction.)

149. Pakau a puaka tuu a: Leanness of a pig kept in a sty. 539

The pig kept in a sty does not become so fleshy as the pig allowed 825 to wander freely, but when put to the test of eating the pig from the sty 231 is found to have more fat on him than his brother who enjoyed greater 262 liberty. So used of that which is lean to the eye but is found to have much fat.

150. Puaka ne maa toe fakapelepela: A pig that was clean again 539 covered with mud. 825

Equivalent to the Biblical saying about the sow that had washed turning 231 to wallowing in the mire, and possibly a translation of it.

151. Pukepuke a fufula: Grasping a big fat pig.

This is a task that demands the whole of one's strength and care. Tradition says that a big prime pig used to be kept in a sty in Taanea in Vavau, and that Maui Atalanga and his son Maui Kijikiji went to get it. As the younger Maui went to lay hands on the animal his father exhorted him to grasp it firmly lest it escape. This incident, however, does not seem to be claimed as the origin of the expression.

152. Hage ha fononga pulumokau: Like a troop of cattle.

Pulu-mo-kau, bull-and-cow, is used as a name for either bull or cow. It is of course recent. Applied particularly to great waves at sea and also [823] generally to large things.

oned rather to the father (the head) than to the mother (the tail). 539
Instead of the word *hiku, mahi,* which means the tail, is sometimes used. 825
592

201. Hola ae fai kae tuku ae foto: The sting-ray has gone but 539
the barb is left. 825

When the sting-ray strikes with its tail the barb that enters the body 829
struck is commonly broken off and left in the wound. The fish may swim 571
away but the poisonous, wounding, painful barb is left. Those who have caused suffering may have gone away but the mischief wrought by them still persists. The evil men do lives after them.

202. Ika faao: Predatory fish; fish that prey on other fish.

It is explained as primarily relating to a fish which comes and seizes [226]
a smaller fish from the hook of a man who has caught it, thus violently capturing the fisherman's property. This is well in keeping with the literal meaning of *faao,* but the expression is used generally of one creature which preys on another.

203. Jii a maanga ika maka: Small mouthful (but) rock fish. 539

The Tongan words *ika maka,* translated "rock fish," indicate fish 825
found under the rocks, at the bottom of the sea, or far from land, and 183
which are of superior quality to those found close inshore or near the surface. The phrase means, therefore, that which is small in quantity but of good quality. (Compare No. 85.)

204. Lakulaku tee-feke: Handling black secretion of octopus. 539

Although the black secretion found in the head of the octopus is 226
eaten with the rest of the fish, it is handled gingerly on account of aversion 262
to its color. The expression is applied particularly to one who is not expert 272
in preparing kava. Instead of grasping the strainer or kava firmly and masterfully the inexpert operator handles the materials diffidently and awkwardly.

205. Luki tenifa i hono tahi: Challenge a shark in his own sea. 539

This species of shark, the *tenifa,* is large and fierce and will attack 226
men. The folly of jumping into the water just where he is and challenging 571
him to single combat is obvious. So the phrase indicates the foolish effront- 825
ery of challenging one to contest in that wherein he is superior or under circumstances which give him a marked advantage.

206. Mohemohe a tenifa: Dozing of *tenifa.* 539

The *tenifa,* a large fierce shark, may doze, but when he wakes he wakes 825
to violent activity. Applied to one who is spasmodic; he is inert at one 157
time but at another is working with fierce energy. (See Nos. 207 and 208.)

207. Mohe faka-tenifa: Sleep *tenifa* fashion; *tenifa*-like sleep.

The shark *tenifa* is a very long and sound sleeper; his slumbers sometimes lasting for a day or more. Applied to people who sleep long and [513]
soundly.

539 Another explanation is that long locks were the sign of a betrothed
maiden, and the expression means a maiden bethrothed by a chief who
836 after all does not marry her. When finally she loses the virginal strands
302 585 of hair it is not by being married to the chief she expected but by making
565 a lowlier match. (See No. 459.)

539 **459. Ikai ha lu loloi:** Not a leaf cooked in oil.

Leaves of the taro and nowadays of the cabbage are frequently cooked
262 with coconut and eaten. Used here as the symbol of the smallest and
585 meanest kind of presentation of food. This phrase is not used alone, but as a completion of No. 458. The meaning is that the unfortunate girl has no sort of celebration; not even this trifling food gift falls to her share.

539 **460. See so:** Scaring off sweethearting.

584 Literally of a grave and reverend elder, or some such objectionable
571 person, intruding on young men and maids. Thence of anyone "butting in"
888 where he is not wanted.

539 **461. Vale pe he valeanga:** Foolish in the thing to be foolish
584 about.

829 This refers to one who has been hard hit by the tender passion. A man madly in love may do many things that are not quite in accord with his customary well-balanced sanity, but what else is to be expected from a man in love? He is foolish, but under circumstances in which the whole world is apt to be a little less sane than usual.

539 **462. Viku ae malo o Afitu mo Lakepa:** The passion of Afitu and
584 Lakepa is damped, or perhaps the praise of Afitu and Lakepa is damped, or perhaps the loin-cloth of Afitu and Lakepa is damped.

Whatever the literal translation the expression refers primarily to the disappointment suffered by the handsome (*manaia*) Lolo, son of the chief of Afitu, who had also some connection with Lakepa or its chiefly house. Lolo had been uniformly successful in love until one occasion when he was taking home in his boat a fair lady who preferred another gallant, named Lepuha of Leimatua in Vavau (Lolo also lived in Vavau it would seem), and who jumped overboard and swam ashore and joined her lover. Lolo's chagrin is expressed in this phrase.

[576] *Malo* is a common word for praise, thanks, and possibly the expression means that the praise of Afitu and Lakepa has had a set-back.

[291] *Malo* is also a small loincloth worn when one wants to be unencum-
[287] bered with dress, as in fighting. The native cloth is spoiled by wetting, and so the expression may mean that the cloth is spoiled.

Another meaning of *malo* is the bloom of the breadfruit tree, and the explanation which involves this signification is perhaps on the whole the
[826] best. The bloom of the breadfruit both from its shape and its function as
a forerunner of fruit is likened to the membrum virile; and the expression
[831] is thus a very broad jest on the gallant's disappointment.

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539 554 627 **525. Tonuhia ae faiekina:** The innocence of the oppressed, or the oppressed is innocent.

This takes a very pessimistic view of the course that justice is apt to run when dealing with the poor and unfriended. The poor man is in the right, but what then? He has none to take his part.

539 565 **526. Tua fehui ua:** Commoner asking twice.

It is not good form for a commoner to question a chief about the subject of his conversation. Should a commoner question a chief and the latter take no notice of the inquiry the commoner would lay himself open to the rebuke of this phrase if he repeated his interrogation.

539 829 **527. Tua tala matangi:** Commoner telling wind.

Baker renders the phrase: "One forward with his opinion of the wind, though among sailors."

539 565 **528. Tua tangata kae eiki fekau:** The man a commoner but the bidding (of) a chief.

This means that one chief has sent a messenger to another chief bidding him do something. Although the herald is a man of no account yet chief number two has to take notice of his message because it comes from lord number one.

539 565 829 **529. Tuki a tua:** Striking of commoner.

This striking is not that done with the fist or a club. It is the impinging of speech on one's mental processes. The common people are not well informed or skilled in affairs, and the phrase indicates the confusing of counsel by the unwise suggestions and ill-founded speculations of the uninstructed multitude.

539 183 [137] ● [262] [283] **530. Vale ngau fau:** Fool chewing hibiscus (*Hibiscus tiliaceus*); a fool who chews hibiscus.

Term of abuse, but it is not apparent why chewing the hibiscus should be chosen as a special mark of folly, except that the plant is useless as food. The bark of the hibiscus is frequently used as a lashing and is often torn from the branch with the teeth to be utilized in this way. It is possible that the expression may have arisen as a designation of those who had to perform menial tasks; but we have no information on this matter.

CHIEFS

539 565 **531. Aoao ki majijiva:** Useful to poor; according to Baker "kind, thoughtful to the poor."

The care of the chiefs and provision of clothing, bedding and food for them was a heavy tax on the people.[9] This phrase signifies primarily a chief who was easy to get along with: who was satisfied with whatever was at hand.

9: Collocott M-5 (no date) 1922 OU9 Tonga OU9

805 821 [826]

2. **Faka-ua:** Two-wise, and so on to the eighth, *faka-valu,* to which a special name seems to have been applied, *punifanga* (shutting the circle formed by the brow and top of the head). The moon is now shaped like the front of the top of the human face and head. This name may have been applied to the following night also.
10. **Fuofua-vale:** Incomplete—the moon almost full.
11. **Mahina katoa:** All moon, that is, full moon.
12. **Fe-aho-aki:** Caught between two days. When the sun has set the moon has already appeared above the horizon, and when the sun rises on the following morning the moon is still in the sky.
13. **Uluaki ahoia:** First "caught by daylight," "out all night." If one stays up all night and is still up at sunrise he is said to be *ahoia,* "day-ed." So on this night the moon is still up when the sun rises.

Then follow second, third, and so on *ahoia* nights, when the moon is caught in the sky by the rising sun, but the interval between sunset and moonrise gradually gets longer, till at last there is a night when the moon does not appear at all but is *mate,* dead. This night is the end of the month and immediately precedes Po ae faahikehe, night of the spirit.

In counting the waning moons a nomenclature is employed similar to that used in reckoning the waxing moon, but in the reverse direction, *faka-valu,* eight-wise, *faka-fitu,* seven-wise, on down to *faka-ua,* two-wise which immediately precedes the night on which the moon is dead. This nomenclature seems to run parallel with the reckoning of the *ahoia* nights for a portion of the waning moon.

[262] Ma-tofi, which means sliced *ma* (a food made by burying and fermenting breadfruit or plantain), is a name applied to the waning moon on the second *ahoia* night, when it presents the appearance of a large lump of this food with a piece sliced off the side. A European parallel would be a cheese with a piece cut off one side.

Kalipa is used to describe the moon when rather less than half and on the few succeeding nights, starting from about the time when the waning moon is *faka-valu,* eight-wise.

One informant applied the words Kalipa, Ma-tofi, and Fuofua-vale (noted above of the waxing and almost full moon) indifferently to the waxing and waning moon.

Lekeleka-mate, almost dead (?), is applied to the moon as it appears on the few nights shortly before its disappearance at the end of the month.

175 the Kava to Duatonga, or any of his family, all of
276 whom are considered sacred, they must sit down
574 cross-legged, before they deliver it out of their
[643] hands.

[516] During the preparation of the Kava, the Tomaa-
gee, or principal servants of the chief, are busily
[252] employed in an out house built for the purpose, in
[264] baking yams. These, as soon as ready, they bring
in baskets, made of entwined leaves, and lay them
[285] before the chief and the circle of guests as far as they
[262] go. They eat these yams after drinking the Kava;
[521] and during their meal talk with each other, as they
please, on different subjects.

Whenever the lower orders can procure the Kava,
175 they always drink it in companies in this festive
565 manner; in which they often spend the two or three
276 first hours of the morning. They have this pleasure,
574 however, but seldom, as the chiefs generally exact
it of them, to drink it with their brother chiefs and
175 their attendants. They exercise an arbitrary pow-
565 er over the lower orders, and have every thing be-
longing to them in their power, which their sub-of-
421 ficers take from them, without ceremony, as the
175 chief may need. Though the provision they have
565 by them be ever so scanty, they are required to cook
261 a part of it for the chief; so that they are frequent-
ly obliged to eat the root of the plantain-tree, for a
[262] wretched subsistance, or to resort to the chief, and
beg some food. The chief will send his attendants

175 ters amongst the branches; some as large as a boy's
241 head, full grown, and exuding a gum; others turned
yellow, through ripeness, and the gum dried up.
175 These fruits,[1] when cut into four parts, and baked
262 like potatoes in the fire, in a kind of oven, formed a
[252] good substitute for bread, while the ripe cocoa-nuts
supplied me with both meat and drink of a delicious
flavour, and the plantains furnished me with
175 a refreshing desert after dinner. The oven which
252 they use, is a hole dug in the ground, the sides obliquely
sloped. In this they kindle a fire, on which
they place some stones; as soon as these are red
hot, they draw the burnt sticks from under them,
and, spreading the stones, place their provisions on
them. They then lay some sticks prepared for the
purpose across the hole to keep it hollow, and cover
them with plantain and other broad and long leaves;
on which they heap grass and sods, to confine the
heat. In this manner their provisions are cooked
in the course of half an hour. I have seen a pig
of the weight of fourteen or sixteen stone sufficiently
baked in one of these ovens, in the space of
four hours.

175 The rows of sugar canes which I had planted
on each side the path, leading to the high road, had
797 shot up to the height of eight or ten feet; and now
241 they embowered and entwined themselves so as to
249 form a shady walk. I had improved upon the
method of planting them, usual with the natives,

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[1] [i.e. breadfruit—Analyst]

The cane when grown to perfection was as thick as four fingers; but the chiefs were so fond of it, that they would not refrain from eating it till it arrived at maturity. It was a common amusement with them, to chew it for hours together. 175 262

I much enjoyed my embowering walk of canes. I wish I could say, that while I sat under its shadow with great delight, and its "fruit was sweet to my taste," I had meditated with a grateful heart on Him, of whom these words imply, that his favour refreshes the wearied soul, and his "word is sweeter than the precious cane." 175 797

While I enjoyed, under the shade of my fruitful trees, a pleasant tranquillity, in the simplicity of nature, had I endeavoured to direct the minds of the natives, who visited me, or my own household, to the glorious parent of good, and to his blessed Son, the restorer of eden's lost bliss, my present reflections would fill me with delight instead of shame. But alas, I now needed instruction and reproof myself! I had so much imbibed the spirit of the natives, and joined their practises, that I never attempted to teach and improve them; or else, in a household of twenty, and sometimes of thirty people, who lived in my habitation, as my attendants and workmen, I might have done much good. But I thought of nothing but employing them for my service, in the labours of the day, or for my amusement in the diversions of the evening.

175 there were no superabundant fruits to plunder. The
797 number of us was too great for the productions of
the island.

I had reserved, however, a field of plantains for myself, and having my hut placed in the middle, that I might the more effectually guard them, I
[609] preserved them till they were nearly ripe. But so
pressing were the calls of hunger, that I was subject
[685] to several depredations, notwithstanding my character as "moolee," or stranger; and one morning, upon opening my hut-door, I perceived that had I been awakened to defend my plantation from some thieves who had robbed it during the night, I should have been murdered. The traces of human feet and spears on each side the hut, plainly showed that two men had taken their station there with spears ready couched to pierce me as soon as I should come out.

175 The scarcity of provisions was at length so great,
that we were obliged to eat the roots of the plan-
797 tain tree for our subsistence, and to drink the milk
261 of the cocoa-nut, when very unripe. Hunger pro-
[262] voked me to drink such a quantity, that I was for a
[272] time swelled as though I had the dropsy. When
pining with hunger, I endeavoured to refresh myself with sleep. But upon awaking, I was scarcely able to rise, from weakness. Many were in this deplorable state, and numbers died through want.
[634] At length I repaired to Loogolala, as well as others,
for food.

512 The routine as given is for days during the month of
January. It is not to be supposed however, that this routine
varies greatly for different times of the year. There are no
[132] marked seasonal changes in the Tongan climate except the
change from a dry to a wet season. This change does not
[241] affect the growth of plants to any degree. Hence the villager
is cultivating for most of the year, and when he is not
512 cultivating, he is planting. Annual festivities such as
Christmas and New Year celebrations, missionary-confer-
527 ences and the like mean a certain crescendo of economic
activity because feasting and resting and then more feasting
are approved Tongan methods of celebration. This kind of
holiday-making can only be prepared for by extensive and
increased pre-holiday working activity. Otherwise, as has
been stressed, the daily routine is, by and large, the yearly
routine.

512 So far we have been considering the daily routine of the
villager in terms of the classified statements of a table. In
128 order to give some indication of what this daily routine
means in the life of the villager, the following notes are
taken from field-notebooks. They serve to show the contrasts
between day by day work on the one hand and the activities
centred round special celebrations on the other.

512 This is the way life runs in the village today: Bovai is
holding a working-party to clear the weeds from his pine-
461 apple plantation. Many men are busy there today—his
476 friends from the Catholic church and his male relatives.
They finish work in the early afternoon and then come back
[574] to Bovai's house where he has ready for them a large oven-
baked feast. Bovai finds this a good way to get large
amounts of work done. The men enjoy this kind of work
for a change. It is much more sociable, friendly, and
satisfying than sweating away alone in the bush with only
the persistent mosquitoes for company.

512 Hausia is taking no part in this working party. He is
working with the men of his own household on his own
461 plantation. The men take time off during the day to make
592 for themselves an elaborate feast in the bush. One of the
boys comes back to the village bringing with him a few baked
[574] *taro*-corms and some pieces of baked *manioke*. This snack
[262] is for Hausia's wife and the girls of the household who are

FISHING

The villagers in Pangai do not have either easy or quick 226 access to good fishing-grounds other than the nearby reefs. This is the reason why fishing does not bulk so largely in the work-activities of the men as it does in those of other villages. A few of the men most interested fish fairly [438] consistently, selling their surplus fish to other households of the village. The majority of the men however, think fishing [461] too onerous a job. They buy fish or canned meat when they [432] have the ready money. For the rest of the time they subsist [262] on a meatless diet. These men are of course still well aware of the various fishing-techniques. Some of these fishing-methods are mentioned in this section in order to show something of the ways in which the villager is able to use working-party methods to gain a desired end, to show also the survival of a few magical beliefs in this type of activity.

Shark-fishing is still the most organized of all fishing-methods. Typically, six or more men go in a cutter to the place called Matahina, off the coast of Vava'u proper, recognized as the best shark-fishing bed. Twenty dry coconut-husks have been fastened on a long wire. At Matahina 226 the expert fisherman in charge *(toutai)* drops these 789 husks into the water and jangles them together as he intones [782] an ancient incantation calling on Hina to send sharks. If sharks approach but then disappear again, he uses another incantation to allay their coyness. If no sharks appear after repeated calls, the attempt is made again in other parts of the fishing-beds. When sharks appear round the cutter, a noose is slipped into the water, salt meat is spread in front of the noose and the effort made to draw the noose tight over the shark as it darts after the bait. A successful expedition will often catch many sharks by this method. Should the expedition 226 be unsuccessful, the expert fisherman knows that someone 789 back in the village has disturbed or interfered with his 784 *falesiu* or "shark-house." This is a closed container—an empty kerosene tin, a box, a marine shell, or even a house—which the expert has designated as the "shark-house" for the expedition. This designation has rendered the container *tapu.* It has either been hidden if small, or ostensibly

226 Fishing with a fish-basket is still sometimes practised by a few Pangai men. Some four men in the village know [285] the technique of plaiting this basket from the twigs and small branches of the *kavahaha* shrub (used also for fish poison). The basket is about six feet in diameter, three feet deep, with a narrow mouth. Whenever this basket is not in use, its mouth must be kept stuffed with leaves; otherwise it will catch no fish. The basket is used as follows: Stone sinkers and bait of sea-porcupine are placed inside. It is then dropped in about ten fathoms of water and marked by a float. After some hours, it is pulled to the surface with its enclosed load of fish.

226 262 Of all fishing methods however, the one most used today in Pangai is that of reef-fishing by the women at low tide. Armed with baskets and sticks, the women wade slowly over the reef-shallows hunting for edible reef-creatures. There are at least sixty of these named creatures and plants that are eaten. They range all the way from seaweeds to shell-fish, from jelly-fish to octopus, from crabs to sea porcupines and sea-slugs. These reef-expeditions combine work with [461] pleasure. A group of women and girls spend hours on end wandering over the reefs, chattering and laughing among themselves, stopping occasionally to eat a particularly fat and juicy sea-slug, returning at last to the village loaded down with heavy baskets of food.

226 178 Compared with the numerous fishing-techniques and large bodies of fishing-lore that are known and used, even today, by some of the other Polynesian peoples, it is evident that for the Pangai villager fishing is largely a lost art. This would not apply to other Tongan villages where there is easy and direct access to adjacent fishing-beds. The Pangai man seems largely to have given up the effort to obtain fish in quantity. He greatly enjoys fish when he can get it, whether by his own efforts, by gift, or by purchase. Fishing today with him however, is a side-line activity. Most of his [461] working time is spent in his gardens and cultivations.

BARK CLOTH MANUFACTURE

287 The making of bark cloth *(ngatu)* is a good example of the manner in which the men and women of Pangai combine to carry out a group-activity. Bark cloth still has

land. Tree stumps may be left in the ground or an attempt made to burn them out. Depending upon the area to be cleared and the urgency involved, this work may be done by the men of the household, by a working-partnership of several men, or else many men may be invited to participate, each clearing a small section in return for the first yam-harvest from the section cleared. Again, depending upon taste and other factors of choice, one or more of several different kinds of tubers may be planted in quantity. 241 [464] [476] 244

Taro is easy to grow. Cuttings are planted and replanted each time tubers are harvested. The tuber takes about a year to mature. The giant *taro (kape)* is best planted between the months of March to September. It takes about eighteen months to mature. The gardens are occasionally hoed to keep back the growth of weeds. [221)

The sweet potato is also an easy tuber to grow. It is best planted in the months between March and October. It is planted in big hills, perhaps five hundred hills at a single planting. The tuber takes from four to five months to mature. The garden is hoed once during this time. [221)

Plantain shoots are planted from June to January. The tree takes about one year to mature and at the end of this time about five shoots may be replanted from this one tree. A man will have between forty and one hundred plantains growing in his garden. 245 [221)

Breadfruit takes up to five years before it bears a good crop. Coconuts take about four years to mature. The coconut is generally self-ceeding though plants may be cultivated if the land is poor in coconut-production. Papaia, a staple article of diet, is self-seeding. No attempt is made to cultivate this fruit. Pineapples may be planted at any time of the year, requiring about a year before the fruit is ready to harvest. Mango, oranges, limes, and lemons are not cultivated but grow wild. Watermelons are planted between June and March, but because of the ravages of the fruit fly, cultivation is hazardous. [262) 244 245 244 221

It is on the yam however, that the village cultivator lavishes most care and attention. The yam is considered one of the most delicate-tasting of Tongan tubers and the best of Tongan foods. The first yams of the new season are 244 262

244 often reserved for a feast-occasion. Expressions of satis-
262 faction are heard on all sides as the guests neglect the
commoner tubers and concentrate on the yams. To our taste
the yam did not seem particularly delicate nor greatly
[123] different in flavour from other tubers. But it would have
been impolitic to inform our hosts of our real opinion in this
matter.

244 There are some twenty-one different named yams that
the villager may grow. At most he will plant no more than
half this number depending upon his judgment as to which
244 are hardiest and most worm-resistant. The first yam-
cuttings are planted in June, very early in the month or else
221 at the time of the full moon. A second planting takes place in
August and a third from September to December. July is
considered a bad planting month because worms are more
244 likely to attack the shoots at this time. About one hundred
yam-cuttings are planted in each large hill. After the
cuttings have developed strong shoots, the hill is opened, the
yams replanted, from four to five shoots in each separate
hill. These small hills are again reopened and one shoot is
finally planted in a separate hill. For each complete planting
therefore, there are three minor plantings. Sticks are used
as supports for the growing shoots. The yam-gardens are
weeded and kept clear. Each hill will finally produce four or
five yams. They are mature in from five to eight months'
time. The June planting for example, will be ready in
December if there has been adequate rain toward the end of
[433] this period. One acre of land will grow about one thousand
hills of yam. From four to six hundred hills is considered
an adequate planting for the average household.

241 To give some idea of the size of the Pangai garden, the
following figures were obtained for a small household of four
persons. This household had planted about five hundred
manioke (manioc) plants, one hundred hills of yam,
eight hundred *taro* plants, sixty giant *taro* plants, forty
banana trees in full bearing, together with small amounts
of corn, melons and *kava* trees. Most of this was
planted in August, 1938, when the family returned
from a long visit to Tongatapu. On January, 1939,
it was planned to plant a further three hundred *taro*

231 special kin, church-thanksgivings, and the like. It is well
574 to be prepared for these possible functions with pigs on hand.
527 Otherwise the pigs will have to be bought from whomsoever can be persuaded to sell. The price is likely to be high. Biukala, to take a typical case, has now five pigs, three sows and two boars. During 1938 he killed ten pigs: six for his
[554] son's first birthday (he also purchased an additional large pig for this feast, thus signalising with a memorable feast
[565] the prestige of his high status among the other commoner families of this village), two for Christmas celebrations, and two sucklings which he sold when temporarily short of ready
[262] cash. No feast can claim to be a feast without the service of pork. Hence the premium on the keeping of pigs.

231 Most village households also own at least one horse.
492 This is most useful for visiting distant villages, for riding (bareback) to and from the plantation, and more particularly for use as a pack animal in bringing back heavy loads of food and firewood to the village from the plantations.

231 Many households possess a few chickens which are used
[235] as an occasional food relish and for feasts. The eggs, if any,
[262] may be sold for a pittance to the trading station, the manager of which takes them in turn to Neiafu where they are sold
[432] from the big stores to the European residents. Two families have several goats, useful for feast-occasions. The village overseer owns two cows and a bull. At rare intervals he sells a cow or a calf to a butcher in Neiafu. He slaughtered
[272] one cow himself for the birthday-feast of his son. Neither milk nor manure are used. The animals have mostly prestige
[237] value.

Pigs are nominally supposed to be kept inside enclosures in the village. They usually wander round the village, unhindered, unhampered, and occasionally venture into the bush where they often play havoc with the gardens. They are usually fed on mature coconuts, specially if fattening is necessary for a forthcoming feast. Otherwise they root up the free village lands hunting for roots and wallowing in the consequent mud baths during the rainy season. Goats, cows, and horses are kept tethered in the plantations where they find enough green foods to keep them in good condition.
[857] Chickens are semi-wild, roosting in the trees and only to be

caught when wild-eyed, shrieking children are allowed to 231
hunt them down. [857]

There are a few dogs and a few cats in the village. The villager however, shows little interest in animals that are neither a potential source of food nor of value in lightening the burden of work.

There is no snaring of wild birds nor any attempt to 224
make wild birds a part of the dietary. Flying-foxes are 262
abundant on the higher cliffs of the island. Only one man in [223]
the village, a native of Niuafo'ou, shows any interest in these
as an article of food. He occasionally traps them by
knocking them with a pole into a net. None of the villagers
has bothered to learn the technique. Part of the reason for
this may lie in the fact that in ancient Tonga the flying-fox [825]
was one of the animals sacred to the Tongan deities. Possibly [776]
there has been a survival of this *tapu* attitude toward the [784]
flying-fox even though the villager is not aware of the reason [178]
for this attitude.

ECONOMIC EDUCATION

The growing child is inducted into the economic 868
activities of the group very gradually and without many tears. He or she takes on economic duties according to the strength and skill at the moment. Thus, the six year old girl can start a fire and wash a few clothes though she will as yet make no attempt at cooking. The eight or nine year old boy is already being sent independently to the bush plantation to bring back food and firewood. By this age he is certainly capable of rendering assistance to the household in agricultural work. How much assistance he does render depends largely on the make-up of the household (on the number, that is, of able-bodied adult men in the group) and his ability to disappear with a gang of playmates whenever he senses his services may be in demand. A girl of twelve is already a good cook and housekeeper although she will not yet have learned to make mats. She will begin to learn mat-making techniques between the ages of twelve and sixteen, depending upon the interest of the mother as well as of the girl herself and her industriousness. She will have learned already the techniques of beating out bark cloth though the skills involved in stencilling such cloth and preparing the

which he has read about. That such professional ambitions 212
for his child may be realized Biukala has decided that he 177
must become as much like a white man as possible: 829
particularly in the sense of being able to read and write easily, more particularly in his possession of what to him are large amounts of ready cash. But in this respect [183)
Biukala is a deviant in village-life. He does not represent in any sense the ideals or achievements of village-culture. He is rather an example of the way in which there is within the village, minor inequality in the use that is made of some of the traits that have been taken from white culture into village-culture as the result of culture-contact.

PREPARATION OF FOODS

The preparation of food does not show great variety. 252
The staple vegetables are cooked by grilling on hot ashes, by baking in the earth-oven, by mixing with coconut-cream and then oven-baking, and finally by boiling (either with water or coconut-cream) in an empty five-gallon kerosene can. Oven-cooking is the most troublesome method. It demands a large supply of firewood and a long wait before the food is cooked. It is always used for feast foods but for everyday eating there is a tendency for boiling to supplant the use of the oven. Food may be baked by the average household once or twice a week. For the rest, the diet is boiled food. Kerosene cans are at a premium in the village. [415)
They have, after all, many uses ranging from a food container to a baby bath. Each household likes to have more than one as part of the household furniture.

Fruits are eaten raw, crushed or squeezed and then 252
mixed with coconut-cream, baked with coconut-cream, some- 262
times boiled. Apart from coconuts and papaia, however, fruit figures little in the diet of the adult. Children ranging the bush are more likely to eat substantial amounts of wild fruits. Bananas are mostly boiled while green and unripe. Ripe bananas are saved for feasts.

Pork, chicken, and meat are cooked by oven baking. Canned meats and fish are eaten as they come from the can. Fresh fish is baked, grilled, or boiled.

Green leafy vegetables are seldom eaten. Sometimes *taro* leaves are oven-baked between layers of pork fat or

252 coconut-cream, but even this dish is not particularly common. 262 Sea weeds are eaten, however, whenever they can be obtained.

271 272 Water and coconuts are the usual drink. Concoctions of sugar and lemons or limes are favourites with young and old alike. They are enjoyed whenever there is sugar available.

262 For his day-to-day staple foods the villager uses what he can grow in his gardens. To the old Tongan foods he has added such extras as corn, melons, and other fruits. For his relishes he relies on reef-foods, occasional pork and chicken, and canned foods whenever he can spare the money to make his daily meal more interesting.

FOOD-CONSUMPTION

262 592 The manner in which food is consumed during an average week of our stay in Pangai is shown by the following table. This week covers the seven days between January 23rd and January 29th and refers to the food-consumption of four separate households.

TABLE 6.—FOOD-CONSUMPTION

Household	Composition Adults	Composition Children	Vegetable Staples Lbs. per pers. for seven days	Papaia	Coconut	Extras Meat	Fish	Chicken
A	3	2	59	49	48	8 lbs	10 lbs.	—
B	3	2	55	—	21	—	18 lbs.	1
C	5	8	57	44	52	—	reef food	—
D	5	5	56	25	64	—	reef food	—

[124] Various comments on this table are in order. It will be noted firstly that the four household heads, each keeping his record for the same period, independently of the others, express common agreement on the amount of staple vegetables consumed by the Tongan villager. It was not possible to determine the relative amounts eaten by children and adults. The staple vegetables include *taro*, *manioke*, *kape* (giant *taro*), plantains, green bananas. In addition, very small amounts (included in the above totals) of breadfruit, yam and sweet potato were eaten by three of these four families during this week. One family only of the four and on one day only, ate "greens" in the form of *taro* leaves oven-baked with coconut-cream. All the coconuts listed in

the four records were used in the form of coconut-cream 262
in which the staples were boiled. No informant bothered to 592
list the number of drinking nuts used because, for him, the nuts were equivalent to water in the diet. The meat eaten was canned. The fish eaten was mostly fresh, helped out by canned salmon and herring. The reef-food eaten as a relish by two of the families included shell-fish, jelly-fish, octopus, seaweed and other edible reef-material.

In addition to this food actually consumed by members 262
of the household, further food was on some days collected 592
from the gardens and distributed in the gift-exchange. Thus 574
family B was visited for two days by the sister of the 431
household head, her husband and two children. When these visitors left, the household head presented them with a gift
of about fifteen pounds of *taro* and one large pig. Food to [231]
feed the pigs would also have to be collected: about fifty mature coconuts for each pig would be the amount used in this connection.

The specific amounts of food harvested and used by one 252
of these families (household D) is given in the next table. 262

TABLE 7.—HOUSEHOLD FOOD 592
264

Date	Time	Way Prepared	Food—Number of Tubers						
			Taro	Plantain	Green Bananas	*Kape*	*Manioke*	*Papaia*	Reef Foods Baskets
Jan. 23	Morning	Boiled	30	13	30	—	—	—	1
	Evening	Boiled	20	10	25	—	—	—	—
Jan. 24	Morning	Boiled	40	15	45	—	—	—	1
	Evening	Boiled	20	—	40	—	—	—	1
Jan. 25	Morning	Boiled	45	—	50	—	—	—	1
	Evening	Boiled	30	—	40	—	—	—	1
Jan. 26	Morning	Oven	50	—	—	2	—	15	2
	Evening	Boiled	—	50	17	—	—	—	—
Jan. 27	Morning	Boiled	37	—	40	—	—	—	—
	Evening	Boiled	29	—	20	—	—	—	—
Jan. 28	Morning	Boiled	50	22	19	—	—	—	—
	Evening	Boiled	25	17	—	—	—	—	—
Jan. 29	Morning	Oven	—	—	—	7	30	10	1
	Evening	Boiled	—	—	—	3	—	—	—

This table suggests very vividly the dietary of the 262
Pangai people. For five days there is a steady diet of *taro*, plantain, and green bananas with additional shell-fish relish.
For each meal of these five days the staples were prepared [252]
by boiling in a kerosene tin with coconut-cream (64 mature

nuts were used for this purpose). On the remaining two 262
days boiled food was eaten for the evening meal but an oven 252
was made for the morning meal. Cooking food by oven, as already noted, is more laborious than the simple boiling. Large quantities of firewood must be collected, the oven heated, and time consumed in waiting for the food to be cooked. However, on these two days, it was possible to give variety to the diet by adding *kape, manioke*, and *papaia* to the oven-cooking.

The other three diet schedules follow the same trend as 262
given in this example. There is a certain emphasis on one or other of the staples (*manioke, taro, kape*, plantain, green bananas) according to taste and relative amounts of each staple produced in the household-gardens. Breadfruit, yam, and sweet potato, are something of a luxury at this time of the year.

The amounts of food eaten were quantitatively measured
by striking average weights for each staple, based upon [125]
actual weighing of tubers of *taro*, etc., and of plantains and bananas. The weights of these tubers vary somewhat during the year, depending on time of planting and harvesting. Thus, *kape* planted in March and harvested fourteen months later, weigh up to eighteen pounds.

One further variation in the diets is due to the amount 262
of money (if any) that a household is prepared to spend on 592
food, mainly meat and fish, and to the degree to which either 226
the men or the women of the household are prepared to fish
or explore the reef for edible relish. The head of Household 262
A in Table 6 earned a small salary as a village school-teacher. 511
In one week he was able to spend the sum of twelve shillings buying canned meat and fish. For this amount, he bought eight pounds of canned meat, six fresh fish and four small cans of fish. But he was practically the only person in the village who could spend at this rate and hence have protein
as a steady diet for his household. A fisherman in House- 262
hold B fished twice in this week, catching each time about 226
twenty-five small fish, enough for two meals. The women in Household D concentrated on exploring the reef in such fashion that the household could enjoy reef-food for about

262 [226] half of its meals. Women in the other households were apparently not prepared or not able to spend any or much time on the reef.

[252] The staple fruit for all households at this time of the year is papaia, generally eaten after being baked in an oven. Oranges are beginning to ripen at this time but the villager
[439] is barely interested in them. Ripe bananas are reserved for
feast-occasions and for possible export in order to increase
[434] the money-income of the household. One family in the
village raises pineapples, but these are for export only.

Chicken and pork figure but rarely in the day-to-day diet. They are reserved for feast-occasions. The average villager probably eats either or both about once a week or even more occasionally, depending upon the frequency of feast-opportunities.

264 178 Formerly, food was always eaten outside of the dwelling or sleeping-house. Today, this is still general practice. People eat in the cook-house, or under raised sun-shelters, or in the open air. Some few of the villagers, however, will sometimes serve a special feast inside the dwelling-house. There appears to be no particular reaction to this on the part of their guests although their forefathers of not many generations back would surely have felt horror if invited to enter a dwelling-house and there eat food.

262 264 121 114 In his study of the psychodynamics of Marquesan society,[13] Kardiner uses as one piece of evidence for the existence in the Marquesas of food-anxieties the fact that "notwithstanding the adequacy of techniques of and organization for production . . . there is first of all an overvaluation on eating itself, the emphasis falling on bulk and not on quality." Whatever the value of the other evidence that Kardiner adduces (cannibalism, *tapu* surrounding eating and cooking, etc.), one is inclined to suspect on the basis of this Tongan material that the facts of quantity-eating must be used with great caution when applied to a Polynesian people if inferences are to be drawn regarding fundamental food-anxieties in a Polynesian culture. In the first instance the Tongan tends to eat but one major meal

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[13] Kardiner, A., *The Individual and His Society*, New York, 1939, 220.

262 264 121 114 each day (the second meal is regarded more as a light "snack" than as a true meal). It is natural that he should eat in quantity just to satisfy an appetite sharpened by a day of hard physical labour on his plantation. Probably also, he must eat in quantity to secure sufficient food-elements in a dietary that is made up largely of vegetable staples. In this dietary quality-food is largely absent. It would be difficult, therefore, for the Tongan to show anything but an emphasis on quantity to the exclusion of quality.

262 178 Probably the quality of Tongan food could be improved by a return to old-time methods of preparing and cooking food. But it is doubtful whether the Tongan would eat any less even though the quality of his food were thus improved. As far as improving the quality of food is concerned through greater variety of vegetable and animal staples, this is impossible for the Tongan without radically upsetting the whole basis of his subsistence-economy.

262 264 121 114 We apparently do not have comparable figures which would show the amount of food eaten by a labourer in our own society during each day. One suspects that were this amount known and all eaten during the course of one main meal, then the quantity of food consumed by this labourer might not differ greatly from the quantity of food eaten by the Tongan during his one main daily meal. This Tongan material suggests, therefore, that even though the Tongan eating-emphasis falls on bulk, this may be largely due, not to food-anxiety (though other factors may still produce food-anxieties in the Tongan village-culture), but to the fact that the villager eats but one large meal each day of a diet that is deficient in quality-foods. Further analysis of Marquesan eating-habits might, in sum, lead to this conclusion also, and suggest even more general Polynesian characteristics in regard to eating-habits that would demand a psychodynamic explanation in terms other than an emphasis on underlying food-anxiety.

FEASTS

574 527 The various feast-occasions are mentioned throughout this text, specially in the sections on the life-cycle, where the functional and symbolic interrelations of feasts with the validation of special or critical situations

in the social life of the individual or group will be 574
described. Here the various kinds of feasts may be classified 527
in order to show the status-hierarchies that are symbolized
by feast-occasions. The types of feasts required by specific 574
occasions are named after the size of the pig and the size
of the *kava* root that are considered necessary for this 527
occasion. To the villager a pig is not merely a pig and 554
nothing else. The pig has value as a source of food. It has 262
greater value, however, as the symbolic expression of the [231]
struggles of a household to do what is fit and requisite in [276)
expressing its social status on feast-occasions.[14] The villager
rarely talks of a pig, generically. He talks of this pig or of
that pig as being a *toho* or a *hula* or a *ha'amo*, using these
terms to express the hierarchy of feasts which pigs of various
sizes will be called on to grace. Pigs are carefully nurtured
and fattened by a household according to the schedule of
likely future social obligations. When one of these obliga-
tions is carried out with a pig of obligatory size, or with a
pig of larger size if there is urge to ostentatious display,
then the household is satisfied that it has not failed in that
implicit, but nonetheless precise, measure of the give and
take that is basic to the functioning of reciprocal obligations.

The hierarchy of feasts together with the ancient and 527
modern occasions for their display, are as follows: 574

Umu puaka toho: feast with a pig and *kava* root of 262
toho size. The pig is a fully-tusked boar or a very large- [276)
sized sow. This feast is held for such varied occasions as
first, the feast given by an important father at the wedding
of his favourite child; second, the feast contributed by the
village as part of its gifts should the Queen of Tonga visit
Vava'u; third, the feast (though it would be somewhat
ostentatious in this connection) given by a child should the
mother come to visit from another part of the kingdom;
finally, the feast given to mark the occasion of the purchase

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[14] **Gifford (*Tongan Society*, p. 108) makes the following statement:
"An example of what would seem an opprobrious epithet for a group of [613]
people is Puaka Haa Ngana (Pigs of the Lineage of Ngana)." It is
highly doubtful whether a Tongan would regard this lineage-name as
opprobrious. To the villager pigs are not opprobrious or common or
vulgar: they are both glamorous and glorious! The name Puaka is [551]
a not uncommon personal name. None of the villagers felt that such a
name meant anything insulting. It was just a name—and nothing else.**

527 574 262 of a new cart, wagon or motor-truck—a man's sister's children, dressed in their best clothes, take the first ride in the new vehicle, thereafter being entertained with a feast of this type, an occasion which would rarely happen in Pangai where wheeled vehicles are unknown.

(276) *Umu hula:* the *hula* pig and *hula kava* root are second largest in size. A feast with this pig is obligatory first, when close blood or affinal relatives come together after long residence far apart; second, when the parents of a child that one has adopted come from another part of the kingdom to visit the household; third, for the feast that is served the women working together in the village bark cloth-making house.

Umu puaka ha'amo: the pig for this feast is just too heavy to carry by hand and must be tied to a carrying-pole for easy lifting.

Umu fakahunga: this requires a pig of large size but one that is manageable by hand.

Umu kaveitau: it is unnecessary to serve a whole pig with this feast; fish, meat, and chicken form the main flesh-relish with small pieces of pork additional.

527 574 554 592 262 The last three feasts mentioned above are all in order on occasions of marriage, death, mourning, and the like. The status of the household giving the feast is measured by the size of pig and *kava*-root employed as the major feature of the feast. Households with few resources would give an *umu kaveitau*; those with greater wealth and resources to draw on would not be content with less than an *umu puaka ha'amo*. Greater prestige may also be given to any of these feasts by serving several pigs of a named size, or else by serving one large pig together with many pigs of smaller size, or finally, one large pig of named size and many small portions of pork. The variations in service are endless, but the feast is known by the size of the largest pig on display.

527 262 Two further types of prepared foods are used to mark minor occasions. The *kai me'a kai* is the name of the collection of food taken by a party going off to spend the day picnicking. The women put much work into preparing the food for such a gathering. The result, therefore, is much different from the order of foods that would be prominent at a white man's picnic. A suckling-pig may often be oven-

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cooked at the picnic place, and large quantities of other food 262
will be eaten.

The *kai tunu* corresponds to the basket of food that 574
figures so prominently in the church-suppers and socials of 262
the white man. In Pangai it is contributed by arrangement 794
for such occasions as an evening devoted to singing sacred [431]
songs; for an occasional gift to the pastor of the church, for a carpenter called in to repair the church structure; for the singing and dancing-parties which meet to practise many nights in succession before some large church conference or before the visit of a member of the royal family to Vava'u. If for a group, the food is laid out and eaten after the more serious business of the evening is finished; if for an individual, the food is taken to the household and there eaten in company with household members. It is unlikely that there would be any pork in any of these food-contributions. Possibly a bit of fish or chicken would be included, but mostly the food would be prepared from the regular vegetable staples.

On almost all occasions when the villager joins with 527
his fellows for work or play food is served and eaten together. 574
It symbolizes good fellowship (as when a large group is 262
invited to a birthday-feast), token-payment for services 182
rendered (as with a working-party), validation of a socially important contract (as in a marriage-feast), or it serves as a method of marking the arrival or departure of individuals who make up the social group (birth- and death-feasts). On all of these and on other occasions still, when food is served to the group, the satisfaction of hunger is of course important. None who have watched the villager eat at one of these feasts can doubt either his hunger or his capacity for consuming the largest amounts of food. Beyond this, however, the symbolic significance of the feast is not to be overlooked. The villager is certainly well aware that the feast transforms mere eating into an expression of the social values of the group.

One further type of food-distribution may be mentioned 574
in this context; that is, a combination of a feast and food- 437
distribution for a specific money-raising purpose. This is 432
the feast termed *aho no*—"borrowing day" (?). It is held 262
on any occasion when the householder wishes to raise a

574 comparatively large sum of money for the purchase of a new
437 boat, a cart, or a house. Thus, Hausia wished to buy a large
432 Tongan-style house with an iron roof from its Pangai-born
262 owner who had left the village to live at Tongatapu. Hausia
proposed to remove this house from its present site and
[435) erect it on his own house lot. The price of the house was
fifteen pounds. Hausia had saved up five pounds. He wished
to raise the rest of the purchase-price as soon as possible.
He announced to the village that he would hold a food-distribution on a certain day. For this distribution he
slaughtered all his pigs and one cow. He also prepared large
quantities of food. On the day of the distribution, members
of each Pangai household and visitors from all the nearby
villages visited Hausia. They were given food to eat and a
section of pork or beef to take home. In return each visitor
574 left with Hausia from two to four shillings as a gift towards
437 the price of the new house. At the end of the day, all Hausia's
432 food had been eaten, all his meat given away, but he had
431 acquired about twelve pounds in money. It may be noted
that the villagers do not think of this transaction as a sale.
They make a gift of money because money is needed. Hausia
makes a return-gift of meat because it is a desirable food.
By this gift-exchange, Hausia raises a substantial sum of
money while villagers and visitors get plenty of food to eat
and meat to take home.

INCOME AND EXPENDITURE

434 As will be evident from the following discussion, Pangai
511 operates today partly on a self-subsistence economy and
partly on a money-economy. Food for the everyday diet is
largely raised through gardening and does not involve the
expenditure of money. Additional delicacies for a feast,
however, generally necessitate recourse to the store. Money-
[432) economy is more importantly involved in the purchase of
clothing, soap, kerosene, matches, and the like.

434 Perhaps the best way to show the manner in which this
money-economy is geared to the everyday life of the villager
511 is to present in some detail the income- and expenditure-
592 accounts of two Pangai households.

Sesoni and his household (2 adults and 5 children) can very well be taken as representative of the average village

The village overseer, the
434 school-teacher, the pastor, and a man like Biukala who
556 controls three *api*, all find that they are respected for the fact
that their additional wealth makes it possible for them to
574 expend more in the giving of feasts. Power, that is, that
comes from relatively great wealth is used mainly to increase
the size and frequency of one's feasts. To these feasts most
574 of the household heads of the village are invited. Or if
621 they are not invited, then part of the food on display trickles
592 back to their household through gifts to close relatives.
571 Thus, many in the village share in a large feast even though
a relatively few only may actually be present at the eating
431 of the food displayed. There are always obligations to be
paid off to this household or that. Food given as a gift from
one feast may actually change hands several times before it
is all finally consumed: each household having a part in this
chain of exchange will take part of the food-gift and then
pass the rest on to another household to whom it has an
outstanding obligation. Probably no single factor will
434 produce greater changes in village life than the accumula-
556 tion of money for power, rather, than as at present, the use
178 of money to gain prestige through feasts. But this change
is not yet significant in village life.

CHANGES IN CRAFT-ACTIVITIES

178 In considering the various aspects of craft-activities
and the place they occupy today in village economic life, one
sees evident signs of change which suggest something of a
decay in craft-techniques. In fishing-activities for instance,
178 few men bother with net- or line-fishing. Fish of any sort
226 are fairly rare in the daily diet. Not that the villagers have
262 lost a taste for fish. Whenever an occasional successful
fisherman blew a whistle in the village to announce that he
[202] had fish to sell, those who had money to spare would rush to
buy. On these occasions we could give no more acceptable
[431] gift to neighbouring friendly families than a block of fresh
fish. The fact that fish is a delicacy today goes along with
181 this lack of interest in fishing. This indifference to the sea,
noticeably strange in the descendants of a great sea-going
823 people such as the Tongans formerly were, comes out also
868 in other ways. Thus, Pangai is situated on a rise within
[361] one hundred yards or so of a beach. Two or three other

swimming-beaches lie within easy walking-distance. Yet 181
young boys rarely learn to swim before the age of six or 823
seven, and girls often much later. Younger children are 868
often severely whipped for venturing to stroll unattended [861]
toward the nearest village beach. Yet the beach itself
provides safe swimming at all tides. Elsewhere in Polynesia, [171]
by contrast, children of three are already fair swimmers and
none, parents or children, seem to have that fear of the water
which is characteristic of the Pangai villager.

This decay in the art of fishing can be paralleled in other 178
aspects of village economic life. In bark-cloth-making for 287
example, there is apparent a sort of technique atrophy which
may be the prelude to slow death. Mariner describes a
technique for making bark cloth at the beginning of the
nineteenth century when the prepared cloth was baked in an
earth oven and then spread out all night to be dampened by
the dew before it was sun-dried on the next morning and
packed away in bales. None of the villagers had heard of the
use of this oven-baking or dew-dampening process even
though Mariner says that it increases the durability and
strength of the bark cloth. The lack of just these two
qualities in their bark cloth worries the Tongans today, when
they compare bark cloth with cotton piece-goods. They
have evidently forgotten, therefore, two skills that might
be used to improve the quality of the bark cloth for which
they still have major use.

A somewhat similar atrophy is noticeable in the arts 178
of cooking. Here the introduction of the kerosene-tin or 252
the iron cooking-pot has meant the ever-increasing use of the [415]
simple technique of boiling and a progressive lack of interest
in oven-baking. By comparison with oven-food, even the [177]
villager admits that boiled food is tastelessly sodden and lacks
variety of flavour. We read out to Biukala some of the
recipes that Mariner gave for preparing Tongan foods.
Most of the recipes he had heard of by name, many he could
cook himself. But he had to admit that few of the villagers
had either the knowledge or the patience to prepare Tongan
food according to these older methods. Whatever variety 178
there is introduced into the food eaten today often comes 177
from the addition of large amounts of cane sugar to mixtures 262
of flour and water, or else from the use of tinned beef and

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177 tinned fish. It is apparently easier for the villager to buy
262 a tin of beef from the store than to fish, even though the beef
is the bull's toughest cut. But to buy the beef, you need
[432] money, and money you get by cutting copra to sell to the local
[434] store. Thus, the villager has tended to concentrate on his
plantation and on his copra. From this point of view, the art
178 of fishing is being so rapidly lost that the sea is becoming
226 about as interesting and as important to the villager as it
823 is to the average large city-dweller in our own society.

The villager does not bewail the loss of his techniques.
178 He would become a mere sentimental antiquarian if he did,
181 especially where new methods and novel appliances are more
efficient than the clumsy and inefficient techniques of a past
age. Where he might well feel, however, that the balance-sheet
shows him in the red is in the arts of fishing and
cooking and in the loss of the arts of leisure—the arts of
dancing, singing, and playing. Here Christianity has taught
[177] him that play is mere idleness, dancing is sinful, and singing
respectable, provided only that the music and words are
[795] concerned with sacred topics. As a result, the villager plays
cricket and football in brief seasonal spurts and nothing at
other times. He sings loudly in church, rarely at any other
time. He leaves dancing to untutored children who dance in
no tradition except that of their own making. All in all,
change in these arts of leisure has given the villager time to
spare. But for the *kava* circle and its saving sociability, he
would tend to kill his time and then wonder why happiness
so often eluded his searching.

THE HOUSEHOLD

592 The Pangai household consists of that group of individuals
living together which uses the same cook-house for
the preparation of common meals. Generally this group
[513] uses but one sleep-house. A further sleep-house may be
necessary however, if the numbers of the household are large.
592 The relationships of the persons making up the individual
602 households (as determined by a census taken of all the
[125] households in the village) consist of twenty-six different
groupings of kin. Omitting for the moment the biological
groupings of parents and children, there are represented ten
types of patrilineal relationship of household members to

844 mother calls out: *"Ko ho manava, mo hoku manava"*—
literally, "My breath and your breath." The father takes the
afterbirth with the cord attached and digs a hole in the middle
of a path near the house. He burns some dry leaves in this
hole to warm it and then, when the fire dies down, places the
afterbirth in the hole after wrapping it in bark cloth. The
hole is then carefully filled in with earth.

Meanwhile the baby is being wiped clean with warm
water. It is wrapped warmly in bark cloth and allowed to
rest in the grandmother's lap. The medicine-man is given
[759] presents in return for his services: mats, bark cloth, food,
[465] sometimes money. The husband prepares a feast with as
big a pig as he can afford. *Kava* is served to all friends
[574] and relatives in the house. When the food is served, the
[262] mother may not eat pork. The most honourable part of the
pig, its back, is given to the medicine-man.

604 Two relatives who will later play an important role in
846 the child's life, observe a different procedure. The *meheki-
tanga* (father's sister) may come into the house and hold
601 the child in giving it a name. The *fa'e tangata* (mother's
brother) may not come into the house but spends his time
in the cook-house helping with the feast.

846 For ten days after the birth the mother is confined
entirely to the house. At the end of this time, the infant is
[854] given a warm-water bath by the mother's mother. The
mother may now leave the house to attend to bodily needs,
but stays closely confined in the house for the rest of the day
and night. This confinement lasts for three months in the
case of the first-born, for two months in the case of a second-
born, and thereafter for one month in the case of subsequent
[795] children. A formal baptism in the church marks the end
of this confinement of the mother. After this, the mother
returns to full participation in the work of the household and
in the everyday life of the village.

In the ten day confinement period, the routine is as
follows: Mother and baby lie on separate beds of bark
cloth. The mother's head is wrapped in a turban of bark
[854] cloth and she is covered with layers of bark cloth. Close to
her lies the baby surrounded with an enclosure of bark cloth
over which a piece of cotton or muslin is thrown to keep away
[574] flies. During the first day the father is busy preparing the

585 the house. On these mats are sitting the groom's mother's
585 brother (his *fa'e tangata,* called at this time his *fa'e huki,*
604 "lap mother"), and the bride's mother's younger sister.
The groom sits in the lap of his mother's brother, the bride in the lap of her mother's sister. They continue to sit thus until the *kava* drinking is finished.

585 *Kava* is made and drunk with special ceremony. The
bowl is placed before the bride and groom. It is the largest
276 possible bowl and in front of the bowl is the largest possible
root of *kava (kava toho).*[23] The *kava* and the accompanying food are provided by the fathers of both bride and groom. Four men out of the group of those present (termed collectively *tou'a*) are selected to prepare the *kava*-root. The root is cut carefully into three sections. The middle section
[777] is laid aside because it brings bad luck to use it. From the
two end pieces, the drink is prepared after these pieces have been scraped and cleaned. Two sets of pounding-stones are set on two mats and two men of the group of four slowly pound the *kava* root into small pieces. The groom invites an expert to make the *kava.* He sits before the bowl and prepares the drink from the root as it is passed to him by the pounders. The expert makes great display of skill as he goes through the routine of *kava* making.

585 When the *kava* is ready, the person who is presiding over
the circle calls for the *kava*-relish *(fono kava).* The largest
276 pig *(puaka toho)* is divided in such fashion that the back is
574 presented to the bride's father's sister's child (the bride's
262 *fahu*) and the remainder is divided equally among all the
[605] other members of the *kava* circle. Food from the oven is also
divided among all those present. Neither pork nor other food may be eaten at this time. It is taken home and eaten after the *kava*-drinking is finished. Now the *kava*-cups are called and after the first round is finished the bride and groom leave the group.

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[804] [23] *Kava* roots are classified in size and named with the same size terms that are applied to pigs. Thus there is *kava toho, kava hula, kava ha'amo, kava fuataha,* just as there are pigs—*puaka toho, puaka hula,* etc. A feast at which a pig of the largest size is served, a *puaka toho,* must also serve a *kava toho, kava* of the largest size, and so on in gradations for size of pig, size of *kava* and status of feast.

At the present stage of technical development in the 177
social sciences, an index of acculturation is still to be dreamed [121]
about, not worked with. A brief survey of the present
culture of Pangai village might well suggest that some such
cultural elements as the following would come within the
scope of such an index. First of all, it is easy to see that
there has been more cultural transference in the field of
material culture than is obvious in social organization. Even
with material culture, however, many distinctions have to be
drawn before it is all clear what has been transferred from
the alien culture. Thus many non-aboriginal foods are 177
cultivated today—corn, melons, tomatoes, and the like. But 262
compared with the use of aboriginal staple vegetables, such
imported foods play a non-significant role in day to day
eating and have gained little significance as prestige foods
for feast-purposes. In the preparation of foods, the process 177
of cooking by boiling has been developed with the importation 252
of kerosene-tins. Boiled food is quicker to prepare than [415]
oven-baked food. Hence there is a tendency to eat boiled
food much of the time, using the native oven whenever something
a little out of the ordinary is desired. In the technique 177
of eating, there is wide use of a few simple plates, dishes, 264
and cups, but transferring food from container to mouth is
still done with the fingers. In the use of foods, therefore, 177
the present culture illustrates a blend of new and old. How 178
much of each is involved is difficult to characterize with any
simplicity of statement.

The position is similar with regard to clothing. There 177
is today an extensive use of clothing materials derived from 291
European culture. The village women all wear dresses. All 178
the men at one time or another wear cotton shirts, but for 292
most purposes and occasions as a lower garment they have
borrowed the use of cotton materials which they use as a
skirt *(vala)*, thus following aboriginal practice in the style
of the garment. For ceremonial or out-of-the-ordinary
occasions both sexes wear either in place of, or on top of
the ordinary lower garment, a fine mat skirt together with
a belt of plaited coconut sennit *(ta'ovala)*. In dressing up
for special church occasions, deacons or lay-preachers almost
invariably try to wear the white man's suit, shirt, sox, and
shoes, though none of the village men would wear any of

342 time to examine the three great rooms that formed our
quarters. There was a depressing air of decayed grandeur
about the worm-eaten furniture and weather-stained floor.
[353] A large room at the end became our pantry, and through
the reed screen that divided it from the rest of the house
came the incessant chatter of a Princess and two ladies
from the jail who had been told off to attend to our
517 wants. When not engaged in the menial service of washing
521 dishes, they were drinking kava and retailing the
276 local scandal in an atmosphere reeking with the fumes of
565 *sulukas.* Lest I should seem to boast of my single experience
592 of eating from the hand of a Princess of the Blood
576 574 Royal, I hasten to add that Charlotte, the lady in question,
was a member of Fatafehi's household, and since
we were his guests, it was in accordance with native
etiquette that she should take charge of the culinary
[262] department. She discharged her task admirably, and
rang the changes on fried chicken, fried sucking-pig, with
baked cocoa-nuts and raw fish[1] for dessert, in the most
practised manner.

645 After luncheon Tukuaho became gloomy. Not a soul
574 had come to greet him, and he was not accustomed to
578 unpopularity. During his last visit, he said, his arm had
been tired with shaking hands, and his digestion upset
with the quantity of kava he had been obliged to drink
with his admirers; but now he saw all his old friends
645 578 pass the door without looking in. Fat Peter's appearance

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[1] Raw fish is described by Mariner as a delicacy, and it was provided at my special request. It is cut up into lozenge-shaped pieces, and washed in salt water. When I had overcome the natural repugnance of the idea, I found it rather good. There is no valid reason why raw fish should be nastier than raw oysters, which it much resembles in taste.

cent actions, introduced the pig into the islands of the 231
Pacific. It would be questionable whether, if he had done 177
so, he would have deserved the gratitude of posterity; for [136]
the pig, in his *rôle* of universal scavenger, adds to the
insanitary state of the village when alive, and when dead
disagrees with his owners. For he was never an article [262]
of common diet, being killed only on occasions of ceremony, and then eaten to excess. So far from taking pigs
to Tonga, Cook called there to obtain them in order to
preserve his crew from the scourge that wrecked so many
other expeditions, the scurvy. One hundred and thirty
years before Cook's visit Tasman exchanged iron for pigs
at Hihifo. But pigs had not then reached all the islands.
Penrhyn was without them; and tradition tells of a time
when even Fiji, so rich in all else, knew not the taste of
pork. The story comes from Samoa, and its very inco- 000
herence seems to stamp it as having a core of true metal
within its thick coating of alloy:—

"Many generations ago, when the world was still young, the crops in Upolu failed, and there was a great famine. And a man, who had a daughter married to the chief of Tutuila, called his son to him and said, 'The people are dying of hunger, and beside these two pigs we have naught to eat. If we kill these the neighbours will come in and take the meat from us, and afterwards we shall all perish together. But I have heard that in thy sister's land, in Tutuila, there is yet plenty. Now go to her and ask her for shelter for me and thy mother and thy brothers who made her marriage-feast for her, for we would live with her until there be again plenty in Upolu.'

cart is noiseless, and so after nightfall they are compelled by law to carry a light. The law is satisfied by the economical expedient of a smouldering brand, visible no farther than a lighted cigar. 493

There is little bird-life in the islands, but two of the species show remarkable peculiarities. The *kaka*, a green parrot common to all the islands of Fiji, is in Tonga confined to the little island of Eua. Though tame parrots have been taken across the narrow strait that separates Eua from Tongatabu, and have escaped in the larger island, they have never bred there. Wallace has recorded the fact that land-birds will not cross a deep-water strait, however narrow; but no one has offered a plausible explanation of the arrival of the *kaka* in Eua without touching at Tongatabu. The Eua species differs slightly from the green parrot of Fiji. 136 [235]

Stranger still is the presence of the megapodius (*malao*) in Niuafoou (Boscawen Island), which, if one may judge from the absence of a fringing reef and the volcanic nature of the soil, is of more recent formation than the others. It is covered with the large mounds in which this energetic little bird lays its eggs, leaving them to be hatched by the sun if they be fortunate enough to escape the eyes of the people or the pigs of the place. These eggs, enormous when compared with the size of the bird, have been for centuries regarded as a delicacy of Tongatabu, and have been exported thither in every canoe sailing southward during the breeding season. I was told (with what truth I know not, for I tried it and failed) that the eggs thus taken to Tongatabu are often hatched artificially and the young *malao* reared. The jungle of the southern [262] [235]

14: Thomson G-3 (1886-1891) 1894
OU9 Tonga OU9

[1616]

15th.—At noon we were in 86° 12′ [misprint for 16° 12′]: the wind being S.E., course W. and W. by S., fine weather. 175 177

17th.—Wind N.E., course W. by S., but the two last quarters we set our course W.N.W. Short of provisions.

18th.—In 16° 5′ we had variable westerly winds.

[On this day Schouten reviewed his position and prospects, and spoke to his crew, pointing out the shortness of food, and the impossibility of returning eastwards. The Terra Australis, of which they were in search, had not appeared, though they were 1600 miles to the westward of the coast of Peru. It remained only to steer more northerly and make for the Moluccas, braving the dangers of the New Guinea navigation, and making the best of their ill luck. The course was therefore altered to N.N.W.] 000

[Discovery of Futuna.]

19th.—Southerly wind. Course N. In the afternoon saw three islands to the N.E. by E., eight miles distant, and apparently a cannon-shot from each other. Made for them, sailing N.E., with fine weather, but fresh. 175 177

20th.—Wind N.N.E.

21st.—Wind easterly. When one mile from the land twenty canoes came out to us. We proffered friendliness, but one with a very sharp wooden spear in his hand threatened one of our men, and the people from the next island were shouting, as we took it, to urge them against us. Fired two cannon-shots. Sent boat out to sound, but got no bottom, eight small-arms men in her. A fight ensued, and six were killed. Stood off and on all night. [411]

22d.—Sent the boat in to sound again, and got anchorage in thirty-five fathoms, a gun-shot from shore. The Captain went in the boat and got a convenient place for the ship to moor in, close to a fresh-water creek inside the reef. Canoes came and brought cocoa-nuts, and *obas*, and two roast pigs. We paid them in [262]

16: Collocott M-5 (no date) 1921 OU9 Tonga OU9

771 period of which we have information totemism has given way to a
more highly developed polytheism, but there are indications that the
development was by way of totemism. There are the usual restrictions
784 on the eating of the sacred animal, though some fish which enjoyed a
262 certain amount of sanctity were used for food by those in whose eyes
they were sacred. The whole question of fishing was edged about
[226] with *tabus*, the consideration of which would lead us too far afield
from the matter in hand. But I have not yet been able to positively
784 ascertain whether the species of a fish in which a god was actually
embodied was ever eaten by his devotees. For instance, there is
262 more than one shark deity, but I know of only one clan who refrained
776 from eating shark from religious motives. The two most famous
shark gods manifest themselves in sharks which are not used as food,
and, are in fact altogether exceptional, and probably purely mythical
fish. Putting aside a few fish, which, if not actually the vehicles of
gods, were at all events the subject of special *tabus*, the prohibition of
[154] the eating of the sacred animal is general and clear. A highly
respected native minister of the Methodist Church informs me that to
this day he gets a headache if he eats the sacred animal of his clan,
though it is esteemed a delicacy by those who have the good fortune
to be exempted from the *tabu*, and probably most who are not.

There is an old story which is perhaps a fragment from an ancient
773 and forgotten body of lore in which the totem plays an important
part in the impregnation of the woman of his clan. The tale of the
birth of the lovely Vae, who became so beautiful that there was not
her equal in the whole of Tonga, relates that during her mother's
773 pregnancy the food for which she craved was the rail. The idiom
used to express such cravings of a pregnant woman might be
842 translated with strict accuracy, so far as the form of expression goes,
192 as the food by which she was pregnant, or had conceived. The
present day Tongan, however, uses the expression without any idea of
pregnancy having been caused by the object in question, but merely
as indicating the fastidious liking of a delicate woman for a special
773 food. The god of Vae's father was the dove, and before the mother
had given birth to her child the parents embarked on a voyage,
taking with them the dove god. On the way the expectant mother,
in her longing for her favourite dish, asked her husband for a rail.
He, rather exasperated at so unreasonable a request out at sea,
screwed the neck of his god and gave his wife a meal of dove. Being
compelled by stress of weather to put in at an island, the mother
there gave birth to her child, which to her disgust was marked on the
face by the dove's head. In her chargin at this disfigurement she
abandoned the infant, a little girl, at the foot of a tree when the
voyage was resumed. The remainder of the story, telling of the
child's adoption by a couple on the island, the disappearing of the

776 connected with the wider worship of Bulotu Katoa. The sacred
animal of Mofuta-ae-ta'u was a great sea-eel (Toke), who dwelt in
[825] an opening of the reef opposite the village. This deity resented
anyone's appearance on the beach near his abode with the head bound
with a turban, or whitened with lime. Should anyone so disregard the
eel's feelings as thus to appear in the forbidden area he would be taken
off to the hole in the rock where the god lived. It is related of one
unlucky wight who so offended that he was born off by the enraged
god, but five days later, when his friends and relatives ashore had
finished celebrating his obsequies, he suddenly appeared amongst
them, not, however, his old, good-looking self, for the eel-god had
plucked every hair from his head.

A small fish called the *vete* was regarded as the girdle of Mafuta-
776 ae-ta'u, it being asserted that a shoal of *vete* surrounded the great eel
825 like a leaf-girdle. A similar statement is made about another fish
and one of the shark-gods, to be mentioned later. The eating of the
776 *vete* was not forbidden, but it was *tabu* for the chief Tamale to go down
to the beach on the days when it appeared. Should he neglect this
825 precaution of keeping out of the way (probably within doors) the *vete*
784 would disappear. Restrictions of this sort are not confined to Tamale.

[262] The father of the present Tamale adopted Christianity, and burnt
the temple of his god. Its furniture included fine mats, weapons of
778 war, and carefully wrought pieces of wood painted with tumeric.
[798] Probably this is a representative collection of temple treasures.

Taufa is another god of the chiefly eastern end of Tongatabu,
associated particularly with the great Tui Haatakalaua chief Tungi
776 and his family. The Tungi chieftainship is comparatively late, but
643 the title is now borne by the Tui Haatakalaua, one of the oldest and
proudest names of the Tongan nobility. The special domain of Taufa
776 was a large district called Ahau, including several important modern
[103] villages, in the east of Tongatabu, but the name is more familiar now
as that of a village at the other end of the island. One of the most
776 widely used names of the hero-king, George Tubou I., Taufa-ahau, is
said to be derived from the name of this god and his district. In
643 childhood the king was cured of a serious illness by Taufa, and
551 thereafter bore the name Taufa-ahau. This name was previously
unknown in his family, but has since been perpetuated. Taufa had a
776 famous sanctuary. It is related that, during a time of war, Niukapu,
a chief of very ancient lineage, fled from his foes and gained this
778 house of refuge. His enemies thereupon slew a man, and, with
[782] appropriate accompaniments, presented him as an offering to the god.
The priest Kautae, thinking it shame that a man who claimed
776 sanctuary with him should perish, slew his own daughter and gave
778 her to the waiting warriors, thus ransoming Niukapu. Tamale, who
related this, spoke of Kautae as having given his own life to Niukapu's
793

Fakafumaka, or Vakafuhu, is the god of the village of Kanokupolu, 643
already mentioned as giving his title to the Tui Kanokupolu. Formerly
there stood here a tree beneath which the installation of the Tui [776]
Kanokupolu took place. A piece of wood from this tree has been used
in the construction of the throne of the Tongan kings, being let in at 643
the back of the royal seat, a symbol of the tree which once stood at the 644
back of the Tui Kanokupolu during his installation ceremony. 824

The sacred animal of this god was a little shell-fish called the *fuhu*,
but there is an obscure statement that he appeared sometimes as a 776
man and sometimes as a rock. The appearance as a man is probably 825
his declaring himself through the priest, but the meaning of his being
a rock is not clear, though it is apparently closely connected with the [787]
fuhu. [793]

An old song is still extant describing the voyage of Faka-fumaka
and Tutula, accompanied by the goddess Fai or Fai-malie, to Bulotu. 776
Fai is the real heroine of the piece, and distinguished herself not only
by her coolness and good sense in the several difficulties and dangers 583
in which they were involved during the voyage, but also by her [192]
voracious appetite in Bulotu, whence arises a proverbial expression
meaning to lick the platter clean, which in Tongan is to "lick like
Fai." Tongans, however, have no cause to regret her greediness, for, 776
having swallowed a yam in Bulotu, she returned to Tonga and gave
birth to a root that has been the progenitor of all the yams in these [824]
islands.

Haele-feke, literally "the Octopus comes," or "Coming in the
Octopus," is a god which appeared in the octopus (*feke*). He is also called [825]
Tutula, already mentioned as the companion of Faimalie and Fakafumaka in their journey to Bulotu. Haele-feke is the god of Motuabuaka (lit. Old Pig), an important *matabule* of the Tui Kanokupolu,
and of Kioa, the head of a younger branch of the same clan. The [262]
clans of Motua-buaka and Kioa, inhabiting a cluster of villages in the
western district of Tongatabu, refrained from eating the small octopus
which is a favourite delicacy of the majority of Tongans.

The octopus god used to appear ashore in a pool called Kauakana. 776
It is said that he changed into a lizard when travelling overland.
When an octopus appeared in this pool it was at once recognised as 825
the god, and the priestess immediately went and awaited him at the [823]
shrine, apparently a little raised platform, whither presently the people
resorted with bunches of coconuts and plaited coconut leaves and 776
earth. The priestess spoke as the octopus, and from words used by 793
an informant would seem to have imitated an octopus, presumably [825]
sprawling out in the manner of this ungainly creature. [787]

The people of this deity not only eschewed in their own diet the
flesh of the octopus, but they must not approach a place where he was 776
being eaten. If any transgressed the *tabu* he was afflicted with 784
[262]
[827]

16: Collocott M-5 (no date) 1921 OU9 Tonga OU9

825 The *kanahe* (mullet), the sacred creature of the clan called Fainga'a,
613 *matabules* of the Tui Tonga. These *matabules* are descended from the
hero Tui Motuliki, who was the son of the Fijian woman Sinailele
644 (this name is perhaps connected with Hina, the widely recognised
779 Polynesian goddess), and the bones of the dead Maui Atalanga and
Maui Kijikiji. Tui Motuliki was even mightier than the great Maui,
and whilst yet a child performed the most amazing prodigies of
773 strength and valour. The mullet was from infancy sacred (*tabu*) to
him, and an old tale relates that he prohibited its use as food by any
825 man. When he came from Fiji to Tonga he brought his *tabu* with
784 him, and the Tui Tonga is said to have extended the prohibition on
262 eating it to all the men of Tonga. There seems to be no remembered
custom to support this tradition so far as full-grown mullet is concerned,
though there is corroboration of the statement that the young
mullet (called *te'efo*) was *tabu* to the men.

825 The *veka* (rail) was the god of Manumua, a chief on the island of
Eua. It was also the god of Motuku-vee-valu (Eight-legged-heron),
776 a chief in the west of Tongatabu, and the father of Muni, of whom
exploits are related very similar to those of Maui. It is said that
773 Motuku-vee-valu and his descendants were chiefs in the west of
Tongatabu before the present Haa-Ngata lords. This, if true, is a
825 very interesting statement. The rail figures prominently in the story
of Muni, guiding the hero, who had been cast into the sea at birth
[773] and was completely unknown to his father, to the old gentleman as he
was hiding from his foe Bunga (coral), the chief of Eastern Tongatabu.
[794] Those who belonged to the rail cult used to take the bird about
with them. This practice is indicated in the story of the birth of the
[773] beautiful Vae.

The *lulu* (owl) is mentioned as sacred to a family group in
[644] Haapai who belonged to the Falefa, already noticed as *matabules* of the
Tui Tonga. Possibly it was sacred to all the Falefa. In passing it
[551] may be remarked that Falefa seems to mean "wide-spread," "widely
ramified," like the water flowing on all sides from the pandanus (*fa*) in
a heavy rain.

The best remembered feature of the owl's supernatural functions is
825 its habit of revealing the pregnancy of women. If the owl hooted near
843 a house in the afternoon it was known that there was a pregnant
woman in that household. The meddlesome bird never blurted out its
news unless for some reason the lady were keeping her interesting
condition a secret, or were as yet unaware of it herself.

825 The hooting of an owl near a house late at night was a sign that
[787] some disaster would befall the unlucky home.

Toke-i-Moana, that Eel-in-the-Open-Sea, was the god of Uiha in
[643] Haapai, whose chief is Malubo. On his mother's side King George
Tubou I. was connected with this family. Two of the king's sons are
764
766

buried in the rather imposing terraced native vaults in Uiha. There 764
was some question as to whether the king himself should not be buried
there, as doubtless he would have been if old native custom had been 766
observed, but one of the outward symbols of recent Europeanisation is [177]
a royal burial ground in Nukualofa, in which cement takes the place of [349]
the great coral slabs cut from the reef with which the tomb of an
ancient chief was built up. Before his conversion to Christianity 776
Tubou I. worshipped Toke-i-Moana, whose sacred animal is, as the
name implies, the sea-eel. A temple was built for him in Uiha. The [643]
sick were taken to Toke-i-Moana and sometimes cured, and sometimes [825]
not, after the customary tribute of finger had been collected from an [778]
unfortunate relative. There is the usual *tabu* against eating the flesh [755]
of the god or approaching a place where it is being prepared as food.

Jinilau is the son of a woman who used, in going out to fish on the [782]
reef, always to turn her back to the rising sun, and at length [784]
conceived by that luminary, the fruit of this extraordinary marriage [262]
being Jinilau, who is spoken of as the god of beauty. Exceptionally
handsome persons were called Jinilau, their attractive appearance [826]
being regarded as the gift of the god.

Jinilau married Hina, but before the marriage took place the 773
poverty of the god and his mother made the procuring of appropriate
adornment to grace the occasion a matter of no small difficulty. The 821
mother, however, solved the question by telling Jinilau to go to his father the Sun and secure his assistance, adding that he must go to him very early in the morning. Jinilau slept too long, and the sun was already above the horizon before the dilatory groom reached him and preferred his request. After a few grumbling remarks about his son's coming to him when he was right up where all the world could be witnesses of their conversation the old gentleman drew a cloud across between them and the eyes of prying mortals, and they had a cosy secluded chat, with no doubt results satisfactory to Jinilau. Hence arise the light clouds which frequently fleck the horizon at sunrise.

There is also an old myth in which Jinilau figures as lord of Akana 773
in Samoa (Folk-Lore," Vol. I., page 94). The Mangaian and Maori
Tinirau is lord of fishes, and this Samoan Jinilau has also special 771
connection with the fish, the Tongan story agreeing with the Maori
in representing him as lending a whale to Kae, which Kae treacherously killed, and was afterwards slain himself to expiate the crime.
In the Tongan story there are two whales, called Tonga and Tunungu, 773
relatives of Jinilau, which are lent to Kae to take him to his home in Tonga. By the treachery of Kae, Tunungu is killed but Tonga, sadly scarred, returns to Jinilau, and relates the fate of his companion. The attendants of Jinilau thereupon go to Tonga and bear Kae back to Samoa whilst he is asleep, and there he is slain. Tunungu had

778 been eaten, but all the scraps obtainable were put into a bowl, and the defunct whale thus restored to life. One tusk, which had been presented to the Tui Tonga, was not recovered, but Jinilau comforted him with the observation that nobody would notice its absence unless he opened his mouth very wide.

776 Toki-langa-fonua, a great god of Eua, wont to appear in a shark, called the Tui-Fai-Ana, i.e., King of the Fai Cave. Myth relates 825 that Toki-langa-fonua swam to Samoa, and that Tui-fai-ana guarded 778 him throughout the journey. This shark was not an ordinary fish, but quite a species to himself. His stump tail was a distinguishing 823 feature, as was the variability of his colour. His home was the cave called Fai-ana on the coast of Eua. He was reputed to be girded 825 about with a shoal of the fish called in Tongan *hofoli*. Approach to [784] the god's cavern was impossible to anyone wearing a sweet-smelling [826] leaf girdle, or having the head whitened with lime, and the prohibition seems to have extended to persons in whom were physical or moral [577] defects. (A boat can never be successful in shark-fishing unless [226] sincere harmony exists between the members of the crew). No noise must be made near his home. Anyone at all unfitted for proximity to 823 the god who attempted to approach the cave fell from the narrow rock 825 path along which he must go, but apparently escaped any penalty 784 more serious than a wetting, for falling into the sea he had no difficulty in swimming back a little way, and there scrambling ashore. It is said too that a great wave used to arise at the mouth of the cave and prevent the approach of the wrongly-disposed person. I have not yet met anyone who claims to have seen this remarkable shark, though I have talked with a young man who says that he has seen in the cave the shoal of *hofoli* said to be the leaf-girdle of Tui-fai-ana.

776 Toki-langa-fonua (Land-building Axe) is said to have come down from heaven as king of Eua. He begot by his sister Hina twin daughters, Tobukulu and Nafanua, who in their turn bore to their father Hemoana and Tafakula. These incests were unwittingly committed, the parties to them being ignorant of each other's identity.

825 The people of Eua are said to be immune from attack by the species of shark called *anga*. As a matter of fact the *anga* has more [262] reason to fear Tongans than they to fear him. It is rarely that one hears of a Tongan being injured by a shark, but the shark furnishes 226 many a meal for the Tongan. The native of these islands displays remarkable intrepidity and skill in the water. In the shark-fishing, the shark is enticed alongside the boat by singing and calling out and rattling with coconut shells strung on a stick, and a running noose is then slipped over his head. If matters are not going smoothly a member of the crew does not hesitate to jump overboard and attend to the noose at close quarters.

There is a tradition that an early Tui Tofua was about to kill his 773
son in a fit of jealous anger, but the youth obtained his father's 825
permission to sail away with some of his people. When they got well
out to sea he told the crew to jump one by one into the water. As each
man leapt into the sea he became a shark, of the more harmless variety
called *anga*. The young chief himself was last, and he was turned into
one of the great man-eating sharks called *tenifa*. A Samoan on board,
not relishing the metamorphosis, refused to participate, and returned
and told the tale on shore. Since then the shark has been sacred (*tabu*) 784
to the Tofua people, and must not be eaten by them, on account of the 262
relationship subsisting between them. There is still extant a song 533
referring to this exploit.

I have received a brief note regarding the gods of Niua Fo'ou, one 133
of the most distant islands of the Tongan Group, lying midway
between Vavau and Samoa. This is a hilly, volcanic island, with a
lake in an old crater in the middle. It has been the scene of volcanic
outbreak within very recent years.

The note states that the gods of Niua Fo'ou were three in number, 776
namely Pig's Liver, the Octopus, and a large lump of Coral (*Bunga*).
Neither the pig's liver nor the octopus could be eaten by their 262
worshippers. Throughout Tonga the liver is a very special portion of 784
the pig, and when on important occasions cooked food is presented to 565
a chief the liver of a pig is taken and ceremoniously placed before him.
Bunga (Coral) is the name of the chief of eastern Tongatabu from 773
whom Motuku-vae-valu, the father of Muni, was hiding when his son
discovered him. Bunga was overcome by that hero in a wrestling
match. This Bunga was the possessor of two enormous *kava* plants,
and of a white flying-fox from whose movements he read auguries.

When Niua Fo'ou became Christian the people threw their coral 798
god into the lake.

There are several gods mentioned by Mariner of which I have not 114
been able to get any independent account. Mariner was best
acquainted with Vavau, whereas the foregoing notes deal mainly with 776
Tongatabu. As a whole, however, the Tongan people fit into a framework 101
which may be constructed in Tongatabu. The chieftainships of
the two northern groups have well understood relations with Tongatabu, 565
all deriving ultimately from the Tui Tonga. It is not clear what 634
was the first home of the Polynesians in the group, or what they found 643
on arrival. Tradition points to their having come from Samoa, a
conclusion which is supported by the general evidence of geographical 174
distribution, and to their first settlements having been in the southern
part, though the farthest from Samoa, in Eua and Ata. It is not
impossible, that these southern settlers may have been pre-Polynesian,
and that the acclimatisation of Polynesian myths amongst them was

Both bride
585 and bridegroom are prepared for each other by bathing and anoint-
[515] ing with sweet-scented oil, and are clad in fine mats and cloth. On
[302] both sides pigs are killed and cooked, and all the usual preparations
[292] made for feasting. The lavishness of the feast, and the amount of
[262] cloth and mats collected, are indications of the wealth and station of
[554] the families. When all is ready the bridegroom, accompanied by a
[602] man or woman who is called his "mother" *fae*, and who must be a
member of his mother's, or his mother's mother's brother's family,
goes to the bride's home, and finds her adorned and waiting for him.
[602] She too is attended by a "mother" of her mother's, or mother's
[302] mother's brother's family. A procession is formed. Bride and
bridegroom lead, closely followed by the "mothers" bearing baskets
in which are bottles of oil, wherewith they continually anoint the
couple lest the oil dry on them. Then come the bride's female
relatives, bearing the mats and cloth which her folk have prepared
for the wedding; and last are her male kin with the food, including
a special basket called the *veifua*, distinctive of weddings and funerals,
and which is the principal food offering of the ceremony. When the
party reaches the house the "mothers" seat themselves on the dais
of mats under the shelter of greenery, and bride and bridegroom sit
on their respective "mothers'" laps. The house is filled with women
connected with the bride, no men are there, their place is with the
food, which is their especial care. Presently a woman is called from
585 the house. She approaches the bride, assists her to rise, and leads
her by the hand into the house, where the women divest her of her
clothes. The practice nowadays, whatever older custom may have
been, is for the girl to wear inner garments which are not disturbed,
but she is stripped of native cloth and mats and her wedding dress of
European material. This clothing has been provided by the bride's
family, and will subsequently fall to the share of the bridegroom's
people. She is then arrayed in clothing, inferior in quality and
quantity to that taken from her, but still good, provided by the
bridegroom, and led forth again to her "mother's" lap; but presently
another woman is called from the house to come and lead her in.
Again she is undressed, and clothed afresh in raiment given by the
husband. The clothing taken from her on this second occasion is for
the bride's people. Then she is taken out to her seat on her
"mother's" lap. If the bridegroom is wealthy the bride may be
dressed in several fresh changes, all the dresses given by the groom
[276] being gifts to the bride's family. Usually two changes suffice. Then
the *kava* is beaten up, the bowl being placed at a convenient distance
off in front of the dais. When the *kava* is ready for drinking, but
before it has been served, the husband and his "mother" rise and
go into the house, where the women undress him, putting aside his
[292] clothing for the bride's family. He is dressed again in clothes, of
[301]

good quality and including fine mats, of his own provision, and a 585
girdle of sweet-smelling leaves and flowers is put around his neck. [292]
He goes out and stands midway between the *kava* bowl and the mat [301]
dais, and a woman who is *fahu** on the bride's side calls the name of
some important personage of the bride's father's family to go and take
the bridegroom's dress. The bridegroom may either be alone, or
accompanied by his "mother." The one named at once steps forth
and takes immediate possession. The bridegroom then returns to
the house, and when he has been garbed anew, comes once more into
the space between the *kava* bowl and dais, and the *fahu* calls someone
of the bride's mother's family to be the recipient of the second dress.
Possession is at once taken as before. This may be repeated twice
more, the third set of clothes going to the bride's father's, and the
fourth to the bride's mother's family, but as a rule the first and
second presentations are sufficient. The bridegroom finally comes
forth from the house garbed in raiment which the *fahu* subsequently
claims for herself, but which is meanwhile worn by the groom. This
dress is called the dress for serving *kava*. The *kava* is now served, 585
the bridegroom taking the cups round, whilst the bride sits under the 276
canopy, and has presented to her the third, the chief, cup. She is
the chief on this occasion. The food distributed with the *kava* is the [262]
largest pig in the baskets brought by the bridegroom's family, and
the back, the chiefly portion, is laid before the bride. As in other [264]
kava ceremonial the food is not eaten by those to whom it is presented,
but is borne off by certain people who are *fahu* to the several
recipients.

After the *kava* has been drunk the food is distributed, that pro- 585
vided by the bride's people amongst the groom's family, and that
given by the man amongst the bride's folk. Similarly the mats and
cloth are exchanged between the families. The bridegroom has
nominally the disposal of that given by the bride's relatives, and the
bride of the presentations of her husband's folk, but very little of it
will fall to their share. The distribution will probably not be made
on the day of the wedding feast, but at some convenient time a little
later. Meanwhile the mats and cloth given by the man's party are
taken home by the bride's parents, and kept till she can go and
attend to their disposal. Amongst regular wedding gifts are candle-
nuts and towels of native cloth, which are presented to both bride
and bridegroom several days before the ceremony, to serve them in
their preparatory ablutions. Candlenuts are ground in the mouth, [515]
and used as a detergent. There is no obligation to use these gifts

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* The *fahu* is extremely important in Tongan society. It is a relative who [593]
has wide rights and authority over a man, namely his sister, or his father's sister, [604]
or their children.

241 Before the civil wars he used to live on his farm, but today it may be
[461] some distance from his home in the village. Four days' not too strenu-
ous work a week is usually enough to provide for his family's needs.
A few friends may join together to do work on each other's farms, but
arrangements of this sort are quite irregular.

241 About half of a typical farm consists of an unkempt area devoted to
311 the permanent cultivation of coconuts, and the remainder of a number
of small plots cleared from a general area of bush and weeds. Less than
half of it will be in use at any time since spelling is practised to conserve
241 fertility. Yams, bananas, and corn are planted on the better land, as
are the tapa trees, a species of mulberry from whose bark the women
fashion a coarse cloth. Taros thrive on less fertile soil, while kumalas
and tapioca do well on comparatively poor land. Bananas and tapa
trees are left to grow for three years on the same spot, but the food
plants are shifted every year. Intermingled with these major crops may
be found pineapples, paw-paws, breadfruit, mangoes, kava, tobacco,
cotton, chillies, ginger, candlenuts, citrus fruits and a few European
vegetables. Somewhere on the holding it is usual to raise sugar cane
for thatch, reeds for house walls, pandanus for mats and baskets, and
various shrubs for scents and dyes.

A farmer in Tonga Tabu will have about 250 yams, 200 tapioca plants, 100 kumalas, 100 banana trees, and 50 pineapple plants. These figures are fairly typical for the whole Kingdom but some variations occur. In Ha'apai holdings are smaller and more carefully cultivated, with fewer yams and more tapioca; in Vavau there are fewer kumalas but more breadfruit and corn: in the Niuas breadfruit replaces yams as the major food crop.

231 Primarily an agriculturalist, the Tongan makes little use of animals.
He keeps perhaps half-a-dozen fowls, three or four pigs, and occasionally
[492] a goat or cow for butchering rather than for milking. Usually he owns
a horse but does not use it for any farm work except carting. Sheep
262 are not raised at all. To relieve the monotony of a largely vegetarian
diet he resorts mainly to fish, which is plentiful everywhere.

For a moderate amount of work, then, the Tongan's allotment
434 provides him with food, housing materials, tapa cloth, mats and baskets.
241 Besides these necessities it affords him a few small luxuries such as kava,
434 tobacco, scents, dyes, and native substitutes for soap. When he requires
cash to pay taxes or rent, to meet Church subscriptions, or to buy a
few store goods, he has only to harvest some of his copra or bananas

165 [164]

next most important cause of death, followed by pneumonia and typhoid. Venereal disease is far from being a health problem. The most disturbing feature of Tonga's health is the high infant mortality rate of 8.7 per cent, even although it is a bit lower than the Maori rate. Unhygienic confinements, and a sudden transition from breast feeding to an insufficiently modified variant of the adult diet seem to be the main causes of infant deaths.

The traditional Tongan diet had developed a strong people, healthy 164
enough in their own environment, but lacking resistance to European 146
diseases, and more particularly to tuberculosis and epidemic diseases like measles and influenza. The current diet does not depart much from 262
former standards, but where it does the change is not for the better. 146
Tongans are too fond of white flour and tinned meat, which only accentuate the deficiencies of their diet in regard to protective food elements. A lack of iron lowers resistance to disease as well as pre- 146
disposing the people to anaemia and yaws. Vitamins are deficient, 164
especially A and C, so that scurvy, hookworm and pyorrhœa are far too prevalent.

Milk and fresh meat would do much to remedy these deficiencies 000
but we have seen that livestock are both scarce and poor. Here is another and a powerful argument for the development of animal husbandry, but more than this would be needed to remedy the situation. Tongans have a marked prejudice against drinking milk, and while 272
they have no such prejudice against meat, they invariably overcook it 252
to make it tender enough to eat without forks and knives. There 000
would have to be intensive education in dietetics and cooking, as well as a flourishing livestock industry, before the Tongans made proper use of meat and milk.

HOUSING

362

Housing, unfortunately, is by no means satisfactory, despite the simplicity and cheapness of building a home in Tonga. About one- [435]
third of the houses are neat wooden cottages with glass windows and iron roofs, built at a cost of about £80 in the palmy days of high copra prices. The depressed condition of the copra market has not only brought this type of building to a standstill but has prevented most Tongans from keeping their cottages in proper repair. Even so they are markedly superior, at least from the standpoint of health, to the usual *fale*. This type of dwelling is cheap—at the most £10 to [435]

ness should, unhappily, overturn the world altogether. This custom still prevails; although the belief of the native mind, as to the supposed cause of the earthquake, has long since been abandoned. 133 776 823

In addition to the fresh-water and other lakes already enumerated, in connexion with several of the volcanic islands, there is one at Nomuka, in Haabai, having certain saline properties, exceedingly worthy of notice. There is also another, in the western district of Vavau, but it has no special peculiarities, and it is of no great extent. 133

That at Nomuka occupies the centre of the island, which, although not more than one hundred feet in elevation, is evidently of volcanic origin. Following the shape of the island, the lake extends lengthwise in an oval form. Its depth is remarkably varied, being in some places only a few feet, and, in others, as many fathoms. The water is intensely brackish, and, in taste, is not unlike a strong solution of Epsom salts. There is no visible connexion with the outer ocean, and no perceptible rise or fall of the water.

A peculiar fish is found here in great abundance. It differs from all known in the adjacent sea, and it has the property of remaining perfectly fresh for an entire day or more, while all other kinds go bad, in the course of two or three hours, in consequence of the extreme heat. After being once cooked, the *ava* will remain eatable for a number of days: and hence it is in much request, by the natives, when on their voyages, as an article of provender. Indeed, the lake may be regarded as a fish preserve, inasmuch as it is placed under certain restrictions in favour of voyagers. No 136 133 [262]

136 doubt the strong saline constituents of the lake
133 act, upon the substance of the fish, so as to prevent
rapid decomposition. Singular to say, however,
this is not indicated by anything peculiar in the
[262] taste. Indeed, the *ava* is greatly esteemed for its
dainty and luscious qualities. The fish attains
136 a length of two and a half feet, when full grown.
It seems to belong to the salmon family; but its flesh is white, and the skeleton of the fish displays an infinite number of fine cartilaginous bones ramifying its entire fleshy substance.

Numerous and perfect specimens of the shell of the *Tridacna gigas* are also found, around the borders of the Nomuka lake, *buried in the soil of its banks.* No living specimens of this mollusk are obtained from the lake itself, nor are they found, so far as we know, in the adjoining sea. One shell, which we dug out of the loose clay and gravel composing the banks of the lake, measured a little over three feet in length, by nearly sixteen inches in width. Although the species is said to have been met with by the French naturalist accompanying the "Astrolabe," as stated in the published zoology of that exploring expedition, yet it is probable that the shell, obtained in Tonga, was only one of those from Nomuka. At all events, the living mollusk was never met with by us, during a ten years' residence, although there are several varieties of *chama*, of large size, very common amongst the different islands.

237 There is a fair variety of both salt-water and land shells, but none perhaps that are peculiar or confined to Tonga. Several sorts are much used by the natives in ornamenting canoes and houses, as well as in decorating their persons. The chief of these are, the

white cowry, *Oculum ovum*, and a smaller one of 237
the same family, the *Oculum verrucosum* of conchologists. The former is employed in decorating the prows of canoes, and also the projecting ends of the outer ridge-pole of houses. The latter are strung into armlets or necklaces. All the other representatives of the cowry family, though numerous, are also found in abundance, but are not devoted to any useful purposes.

There are several extensive beds of the pearl 228
oyster; but these have never been cultivated, nor has any pearl fishery been established. The natives [226]
do not obtain the oyster for the sake of the pearls; [262]
but merely as an edible. These, however, are frequently met with, and are usually of good quality and lustre. We have ourselves taken as many as seventeen pearls, three of which were of moderate size, out of one small oyster. There is no doubt but that, with proper attention, these pearl oyster beds would prove a valuable source of revenue to the people. The largest of the shells are cut up, 237
and ingeniously fashioned into a great variety of 321
native fishing-hooks; while in other cases the shell is highly polished, and worn as a breastplate.

The trumpet shell, (*Triton variegatus*,) is, as the 237
name indicates, made by the natives into horns or 534
trumpets. These are used chiefly in canoes, when 202
voyaging, to give warning of their departure or arrival. The only preparation of the shell consists [321]
in drilling a small hole through the spiral end. The sound of a good one may be heard at a distance of several miles. In the event of a sudden squall, driving any small fishing canoes far away from the land, it is usual for the friends of the missing ones to man several canoes, and to start

237 534 off in different directions, sounding these trumpet-
202 shells, for the warning and guidance of the lost
fishermen, should they have survived the storm.

226 A goodly variety of the more common edible
262 shell-fish, supplies the natives with one of their principal daily articles of diet. Cockles and whelks are plentiful, in some localities, and are cooked in a variety of ways, so as to be made very palatable even to an epicure.

Crustaceous animals, such as shrimps, prawns, cray-fish, lobsters, and crabs, are abundant in different islands, and they are sought after and esteemed by the natives as articles of food. Several sorts of sea-slugs are also eaten, and among these the *bêche-de-mer* of commerce; but it is only found in small quantities, and of inferior size to those so largely obtained in Fiji. The cuttle-fish, or *feke*, as it is called in Tonguese, so despised by the fishermen on our English coasts, is by them very highly esteemed. Indeed, a dish of *vaihu feke*, or cuttle-
[252] fish soup, well prepared by a Tonguese cook, would make even a Soyer envious, and would, undoubtedly, call forth a whole chapter of flowery eloquence fully to describe its merits.

A great variety of fish contributes extensively to the daily support of the islanders. Of the larger sorts that are eaten by them, we may name the albicore, bonito, ray, sword-fish, and shark. There is, besides, a good assortment of rock-fish. These
226 different kinds of fish are taken by lines, nets, and spearing, in all of which modes of fishing the people are ingenious and expert. The favourite method, however, with the Tonguese, is that of fishing with nets. In the manufacture of different descriptions of these, they equal any civilized

crowd of people, some in canoes, and still more swimming 226
and wading in the water, making merry over
the captives, and spearing any of the larger fish
that seemed likely to escape, or were behaving with
unbecoming rudeness to any of their weaker companions
in tribulation. Amid much shouting, and
many pleasant jokes, the whole of the motley
fraternity were safely secured; and, being easily
obtained when the tide had ebbed away, they were
speedily distributed among the several owners of
the nets and canoes.

The true sperm whale, and other species of the 136
cetaceous mammals, are often observed in the neighbourhood
of the islands. Dolphins and porpoises [225]
abound; but they are not sought after by the people.
Sharks, however, are numerous, and these are caught 226
in considerable numbers by hooks, or, more commonly
still, by a simple bait, and a running noose.
In all great feasts, the presence of as many sharks 262
as can be obtained, is considered to be an indispensable 252
requisite. They are always cooked entire, [574]
whatever may be their size; and they are enclosed [285]
in a long basket made from the cocoa-nut leaf. [824]
The flesh of a young shark, when about four feet
long, is exceedingly good eating. One of the 226
largest of these monsters we ever saw, was caught 136
from the deck of the Mission ship "John Wesley,"
when at anchor in Vavau harbour. It measured
nearly eighteen feet in length; and, when opened,
was found to contain sixteen young sharks, just
about to be spawned. It was what is called a
ground shark, having double rows of upper and
lower teeth, each separate tooth being as sharp as
a lancet.

Turtle do not abound so plentifully in the Friendly 225
136

quarter in the thickest part. On only two occasions 136
have we seen it swimming at sea. When
first observed, it was carrying the head quite erect,
about four inches above the surface; but, instantly
it saw our boat, it drew its head under water, and
disappeared. The natives seem to have a great
reverence for, or else a great aversion to, the
creature, notwithstanding its prettiness. But this [778]
may arise, in part, from its having been held sacred, [825]
and being even worshipped in former days.

It would be hard to determine what were the 136
indigenous animals of the Tonga Islands. We have 231
heard an intelligent native playfully say, that, in
olden times, the only representatives of the animal
and feathered tribes, were the *kuma*, or field-mouse,
and the *jikota*, a species of kingfisher.
Captain Cook found hogs, and dogs, and probably,
cats, upon the islands; but it is just possible that
these were first left by the Dutch navigator Tasman,
nearly a century before. Of his visit, the
people have no traditionary knowledge whatsoever.
Whether the Tonguese obtained animals from him 231
or not, there is no doubt that the breed of hogs now
extant is much superior to that which the people
possessed in bygone days. Considerable attention
is paid to rearing them. Many, it is true, are
allowed to run wild in the bush; but a very large
number are reared in pig-styes, or are regularly
tended and fed by their owners.

The number of pigs consumed at the great 261
native feasts, of various kinds, is something enormous. 262 574
Hundreds, and even thousands, have been 231
known to be slaughtered and cooked entire, on
these occasions, with a wasteful extravagance,
against which the Missionaries have hitherto lifted

261 up their protest in vain. By the custom of the
262 country, in this matter, the bulk of the people have
574 been kept poor, through an indisposition on their
231 part to breed and rear animals that might, at any
moment, be demanded from them by the chiefs, as
a contribution to a domestic, political, or even
religious festival.

136 Horses and cattle were re-introduced by the
231 Missionaries, a few years since, and have thriven
[797] well. They were first left by Captain Cook, but
became extinct during the long series of wars which
succeeded the period of his visit. Sheep also have been added, in late years, to the stock of fine goats that had been introduced at an earlier date. The number, however, of these various animals never can become anything very great. The islands are too small to permit of extensive districts being devoted to sheep-runs or pasturage for cattle. Sufficient, however, may be raised for all the purposes of home consumption, and for the replenishing of ships' stores, even should the population become much more numerous than it now is.

The common domestic fowl, the *moa* of Polynesia, is exceedingly abundant, both in the *abis* of the people, and in all parts of the bush. They are somewhat smaller than the English species, but are quite equal in flavour. The *bato*, or Muscovy duck, is also becoming plentiful; while the possession of fine large broods of turkeys is not now restricted to the limits of the Mission families, by whom they were introduced. Geese and English ducks have been tried; but they do not appear to thrive. Perhaps this is owing to the want of sufficient water-ponds.

136 There is no great variety in the other members

slightly pink farinaceous flesh. The best sorts surpass the finest pear in excellency of flavour. These are eaten raw, or they may be baked, or stewed, according to fancy. The Chinese dwarf banana, (*Musa coccinea*, or *M. Chinensis*,) was introduced only a few years since, and has already been widely spread through the islands. The fruit is of a very delicate flavour, and the stem of this species not being more than four feet high, it is much better able to endure the periodical gales that level to the ground all the taller sorts. It has, consequently, become a great favourite with the people, and will, probably, supplant many of the others entirely. 245 [262] [252] [137]

No use has yet been made, by the Tonguese, of the stem of this tree, in the manufacture of cordage, as is the practice in Manilla and elsewhere. Its leaves, however, serve for several useful purposes. One leaf can be readily fashioned, in a few minutes, into at least half-a-dozen drinking cups; while by gently heating an entire leaf over a fire, through which it is rendered at once pliable and tough, wrappers can be made in which to bake fowls so as to retain their gravy, or in which even fish-soup can be cooked without any loss of the liquid. Indeed, we have frequently seen a banana-leaf bag, containing a gallon, or more, of cocoa-nut oil, that had been carried safely therein for many miles. Portions of the juicy stem of the tree are always brought, at the conclusion of a meal, to be used by the guests, instead of soap and water, in cleansing the fingers, after these have performed the duties of knife and fork. It does this very effectively, when well shredded, by rubbing between the hands. 824 [283] 824 415 824 515

Among other edible fruits of Tonga may be 262

262 reckoned the following, which, being now well known, it is not necessary we should more minutely describe. Foremost is the bread-fruit. (*Artocarpus incisa.*) Of this fruit there are said to be at least fifty varieties. Those common to Tonga are known under the generic name of *Mei*, with distinctive appellatives attached to that word descriptive of the different kinds. 262 This fruit, in addition to being eaten, cooked in the usual native fashion, 252 either boiled or baked, is also made into *ma* or bread. The fruit is beaten up, and incorporated with the sweet banana, and scraped cocoa-nut. It is then divided into small balls, or portions, which are buried in a large mass underground, there to undergo fermentation. The *ma* is left buried for many months, after which it is fit for food, and will keep, if not exposed to the air, for a long time. When the *ma*-pit is opened, a very strong and disagreeable odour gives intimation of the fact, to a considerable distance: while the bread itself, to a European palate, is even less acceptable than the black bread 262 of Russia. In taste it resembles what a mixture of barley-bread and rotten cheese might be supposed to be. It is nevertheless very nutritive, and is a good resource in seasons of famine, and in times of war.

245 The papaw-apple, (*Carica papaya,*) or *oliji*, abounds. There are also great quantities of shaddocks, oranges, limes, citrons, and lemons, all of which are included in the general name of *Moli*. 244 Several sorts of pine-apple grow in the highest perfection and abundance. They require no particular care in their cultivation; and, the ground being so rich, the suckers need not be removed, but may be allowed to run to fruit as well as the

parent plant.

parent plant. The custard apple, (*Anona squamosa,*) 000 245
is somewhat rare, and so also is the Tamarind tree,
of which there is a very fine specimen in the
Mission garden at Nukualofa.

The *fekika* or Malayan apple, (*Eugenia Malaccensis,*)
of which there are two species, red and
white, is much thought of. The *vi*, however, is
more esteemed by European settlers, as being the
best substitute for the English or American apple.
In the Friendly Islands it does not attain the large
size described by Dr. Seemann as characteristic of
this fruit in Fiji.* We have never seen it larger than
an ordinary English apple. The *Tava*, a kind of plum, [137]
(*Pometia pinnata,*) is said to have been brought to
Tonga from the Fijis, and if so, it likewise has
degenerated by the change; for, while in Fiji it
attains the size of a pomegranate, it never exceeds
that of a large pippin in Tonga. The fruit is slimy,
and very insipid to European taste. The *Ifi*, (*Inocarpus edulis,*)
produces a large species of chestnut, [262]
which is seldom eaten by the people, except in
times of scarcity. The leaves of this tree, when [824]
strung together into the form of a necklace, are [301]
worn by captives taken in war, or by any offenders,
when brought into the presence of their lordly [571]
superiors, to *hu*, or make submission and obeisance.

Several of the best varieties of sugar cane, 249
(*Saccharum officinarum,*) are cultivated, under the
generic name of *To.* The soil and climate are
highly favourable to the luxuriant growth of this
valuable tropical product. But the natives have
not, as yet, been taught the method of manufacturing
sugar, and therefore they have had little

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* "Viti: an Account of a Government Mission to the Viti or Fiji Islands," p. 316. [113]

be impossible to depict the air of utter disappoint- 245
ment, mingled with lingering incredulity, which 435
the woman's face betrayed, when a large canister 439
of coffee-beans was placed before her, accompanied by an explanation of their true value. Upon inquiry, we leant that she, and her wise lord at home, having heard of the new and valuable plant, secretly obtained one, and after tending it carefully, they thought to make a good thing of it, by taking its first fruits for sale to the Missionary. Considering the poor woman's ignorance, as well as her simplicity, and also the blank disappointment that met her, after such a long journey, we gave her a small present, as an encouragement to further cultivation of the plant, but sent her home with wonderfully altered ideas respecting the costliness of the coffee-bean.

The yam, or native *ufi*, (*Dioscorea alata*,) includes 244
a great variety of this most valuable of all the
edible roots of the tropics. It is the chief article [262]
of vegetable diet raised by the Tonguese; and, probably, it is cultivated in no other region to such high perfection or in such quantity.

The Tonguese do not believe at all in the Fijian [171]
practice of putting yam settings into hard and unprepared soil; nor, indeed, are the Fijians themselves uniform in their mode of cultivating the root. The plan adopted in Tonga involves great care and labour, but is rewarded by large crops of the most valuable esculent root to be found in the world.

After the surface of the ground has been thoroughly cleared of bush and weeds, the first part of the operation is that of digging the yam-pits, or *bukes*. These are dug of a diameter

244 guese. Among these may be reckoned the *kumala*, or sweet potato, (*Convolvulus batatas*,) and the *talo*, or *arum*, of botanists. Both are grown; but the former is considered to be a very vulgar substitute for the yam; while the latter requires such marshy land for its perfect success, that only a very few spots are found suitable for it in the 797 Friendly group. The common potato has been tried by the Missionaries, and thrives pretty well 137 in favourable situations. The potatoes, however, soon degenerate in size and flavour, so that a renewal of imported seed becomes necessary every second or third year. It would, no doubt, do better if cultivated only on the higher lands of Vavau, and in similar localities.

244 There are several species of the *ji*, (*Dracæna*,) and from one of these a large root is obtained, [263] which, when baked, yields a considerable quantity [262] of brown saccharine liquid, sometimes used in sweetening native puddings; while the stringy substance of the root itself is eaten, and resembles somewhat in taste the sweetness of stick cinnamon. [231] The leaves of the different sorts of *ji* afford capital fodder for goats, sheep, and cattle.

824 The arrowroot plant, (*Tacca pinnatifida*,) grows [244] wild, and is found in quantities sufficient to meet the wants of the people, without any special care being devoted to its cultivation. The chief use of the starch, obtained from it by the natives, is in the manufacture of their *gatu*, or cloth. The various [287] small stripes of *fetaaki*, or beaten bark, of which the cloth is made, are joined together by means of arrowroot paste. Any quantity, however, of the root could be raised with but little outlay or labour; and when a better method of scraping and

without eating. At length the Tuitonga noticed this, and asked 539 the reason. Tuimotuliki explained that he could not eat the mullet, for it was made tabu to him when he was bathed at home in his own country in Fiji. Thereupon the Tuitonga requested that the tabu might be given to him too, that he might share in it. But Tuimotuliki demurred, saying, "Why my lord should you be tabued, seeing that you catch that fish in your net? Why should you be prevented from eating it?" But the Tuitonga insisted. "Is there any lack of fish?" he retorted. "Why should I be so anxious to eat that fish? Let me share your tabu, and we can eat other sorts of fish." So Tuimotuliki gave way, and admitted the Tuitonga to his tabu, as a sign of his affection for Fiji. Thereupon the Tuitonga 539 sent word to the different parts of the Tongan group, announcing that the mullet was tabu to the men, and that those who ate 262 it would suffer from blindness, and ulceration, and pox, and 784 baldness, and leprosy. The women alone were exempted from the tabu. (I have never seen or heard anything of such a tabu. The mullet is freely eaten to-day, both in Tonga, and I think in Fiji. Of course the old tabus are largely things of the past, [178] but I have not seen any indications of a recollection of such a tabu. I have not, however, made special inquiries relative to this particular one. Recollections of some old food tabus, no longer practised are preserved amongst some of the people who have interested themselves in these matters, but all I have so far encountered have been of local operation, and I have not found any of such universality as the statement in the text would seem to imply. The mullet at any rate is eaten with freedom and relish).

Thereafter the crew of the boat from Fiji multiplied and 539 became numerous. The descendants of Tuimotuliki are the folk called the Tuitalau, their names being Fainga'a, Tuitavake, Mo'ungatonga, Mapu, Siliika, and Tulukava, the last being a female name. The descendants of Nokelevu are Soakai, Kavakavalangi, Havea, Tukuafu, Funaki-oe-langi. And the descendants of Balusa, who was called Alusa in Tonga, are Ahio, Fakahafua, and Veamatahau. This is the descent of those who are sacred, and who are called the Pure. They

643 commoners' blood, the wives of the *Tu'i Tonga* were
[644] most often chosen from among the families of
powerful chiefs or else from among foreigners, and
his principal wife received the distinguished title,
[755] *Moheofo.* It was not unusual for small children to be
sacrificed as an appeal for the gods' merciful
[782] intervention in the event of the *Tu'i Tonga*'s illness.
Upon the death of the *Tu'i Tonga,* every
643 individual in the Kingdom had his head shaved, and
766 quite elaborate mourning rites took place, including
the burial of certain individuals with the monarch's
[784] body. For about eight months following the death
of the *Tu'i Tonga,* there was such extensive feasting
[262] and mourning that a taboo (chiefs, only, exempted)
had to be imposed upon certain staples like
coconuts and hogs in order to prevent a food
shortage; the taboo was lifted at the end of the

[TEXT CONTINUED ON PAGE 298]

643 lengthy mourning period by a formal observance
766 called *Fakalahi.*[9]

[784] The first fruits of the season were presented
annually to the *Tu'i Tonga* in the solemn, traditional
[262] ceremony—*'Inasi*. These tributes of food in
643 incredible quantities were actually gifts to the gods,
651 for whom the *Tu'i Tonga* was sole earthly agent. In
[796] the ceremony, thanks were given to the gods and
prayers were offered to insure the gods' protection
and their favor for future plentiful harvests.
[784] Succeeding harvests and success in other ventures
supposedly depended upon the execution of the
'Inasi (literally, portion or share), for if it was not
performed, the people believed that the gods would

793 people, rather than blaming the priest, assumed that
the god had merely changed his mind or had
787 purposely deceived the priest.[16] There were
reportedly also times when gods or spirits visited
787 and inspired persons other than priests.[17]

Every family clan in early Tonga was under the
776 guardianship or protection of a god. At times, a god
613 took possession of an animal or object in order to
communicate a message to human beings. Some of
825 the living representatives used in this way by the
776 gods included the shark, octopus, sea eel, quail,
[262] lizard and flying fox;[18] this explains why certain
[182] species of animals were considered sacred in the past
and thus, were not killed and eaten without a
portion first being offered to the gods.

[p.141-B]

39: Gerstle & Raitt C,Q-4,5 (1952-1972) 1974
OU9 Tonga OU9

251
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[825]
[178]

Octopus, which in days of old was considered to be a sacred animal, is today a very popular dish in Tonga. One method of preparing it for eating is to dry it, such as is being done with these three octopuses at Ofu, Vava'u.

Na'e pehe tokua he taimi ko e na'e nofo e ngaahi laumālie kehekehe 'i he feke, ka kuo hoko e ika ni ko ha me'a tokoni manakoa 'i Tonga he ngaahi 'aho ni. Ko e ta eni 'o ha fakamomoa feke 'i Ofu, Vava'u.

[P. 41-C]

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Kuinita expertly prepares a delectable, popular Tongan dish called *lu pulu,* which consists of corned beef and onions in a rich coconut cream sauce. wrapped in taro leaves and steamed in the underground oven at 'Oholei.

'Oku kei manakoa 'aupito e kai 'umu 'i Tonga. Ko e ta eni 'o Kuinita 'i 'Oholei lolotonga 'ene kofu ha lu pulu.

cannot be explained by variations in land quality. 161
Climatic and soil conditions in Ha'apai do not seem 162
dissimilar to those in Tongatapu, although in Ha'- 134
apai the less valuable *tou'one* soil type occupies a
greater proportion of the total land area than in
Tongatapu; neither is there any evidence to suggest
that land in western Tongatapu is inherently more
productive than land in eastern Tongatapu. The 361
main explanation appears to lie in the relationship
between settlement and marine resources. Seafoods
have always been valued items in the Tongan diet, [262]
although fishing and reef-collecting have declined [226]
in recent years as canned meat and fish have become
more easily obtainable. Village settlement therefore
tended to concentrate where there was a good balance
between the resources of the land and the sea.
Where shores and reefs were productive but the 361
land area limited, as in the small islands of Ha'apai
and the narrow western point of Tongatapu, popu- 161
lation densities were higher than where productive 162
shores were backed by more extensive land areas,
as in central and eastern Tongatapu, or where unproductive
shores limited village settlement, as
along part of the south coast of Tongatapu. The
population growth of the present century has quickly
brought problems of land shortage to the former
areas.

THE AGRICULTURAL SYSTEM

The basis of present Tongan agriculture is a bush 241
fallowing system for the cultivation of tubers, the
term *bush fallowing* being used to denote a form of
shifting cultivation in which the fallow period is
short (Morgan, 1959; Watters, 1960.)

The agricultural cycle begins with the selection
of a plot for clearing, burning and planting, the
selection being based on the requirements of the
crop to be grown and the land available to the gardener.
Tongans judge land by the type of soil, by
the growth of vegetation and by their previous experience
in cropping, but because of land shortage
and the system of land tenure the area available to
choose from is limited, despite the common prac-
tice of borrowing the use of land. Where the soil is 244
considered to be sufficiently fertile a yam patch
(*ma'ala*) begins the cropping sequence, and most

[p.58-B]

basis of parent materials, relief and climate, Ha'apai 241
soils should be very similar to those of Tongatapu, 134
but in fact appear to have much lower levels of avail- 182
able phosphorus and possibly slightly lower levels 125
of available potassium.[1] Soil analysis by itself, how-
ever, is not particularly conclusive, and no yield
measurements or fertilizer trials have been made
which might provide further evidence on the ques-
tion of differences in soil fertility. Any decline in 241
fertility that may have occurred has obviously been 134
only moderate. The soils of Ha'apai are by no means 182
nearly exhausted, and satisfactory yields are still
obtained. During fieldwork it proved impossible
to find a plot which farmers considered so depleted
in fertility that it would have to be left fallow for
more than about three years before reasonable
yields could again be obtained. There is also no 182
evidence to suggest that people in the areas of high 262
population density have a diet poorer in quantity
or quality than elsewhere in Tonga.

While there has therefore been some deterioration 241
in the fallow vegetation and probably some decline
in soil fertility there are as yet no indications of 182
serious stress in the agricultural system. Food pro- [134]
duction per head may have been maintained by the [433]
increase in the length of cropping in relation to
fallow, and by the shift in crops, and it is significant
that, despite their complaints of declining yields,
hardly any of the farmers questioned in the areas
of high population density seemed to feel any need
for changes in the bush fallow technique. The argu- 241
ment that changes in methods of maintaining soil
fertility may not be necessary under Tongan con- 182
ditions therefore receives some support, but it is 134
not yet possible to determine whether the absence
of serious stress reflects the ability of the soil to bear
frequent cropping, or is more a result of the limited
length of time the soil has been intensively farmed.

There are, however, further possible explanations 241
for the failure to adopt new techniques. The rate of 182

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[1] The samples were of the top 10 to 12 inches of *kelefatu* soils in the two groups. Ten samples were collected in Ha'apai and 21 in Tongatapu. The mean level of available phosphorus was 43 p.p.m. for the Ha'apai samples and 1052 p.p.m. for the samples from Tongatapu. The difference between these means is significant at the 2 per cent level. The mean level of available potassium was 373 p.p.m. in Ha'apai and 529 p.p.m. in Tongatapu, but this difference is not statistically significant. [126]

MACHIKO AOYAGI

If a man attends church service regularly and keeps on doing good, 795
he will be allowed to be called *lotu fefui* (catechumen), and if he can keep 554
on having a good record a few years more, he will be elevated to the
status of *malanga*. A few excellent men among the *malanga* may be
promoted to *faifekau* by the church president.[14] It is a great honour
and much respected to become *malanga* or *faifekau*.

Fakaafe for the New Year

The last day of the year, it is said, is the most important day for 796
the Tongan. On this day, the members of the Free Wesleyan Church, the
Free Church of Tonga and the Church of Tonga have *fakaafe*, a feast,
thanking God for the peace of the past year and praying for the happiness
of the coming year. Each *malanga* is invited to one *fakaafe* to say a
grace. After the feast, a *malanga* is presented with a bark cloth and a *sisi* 796
(ornamented girdle or waist band or festoon made of flowers and leaves) 574
by the host. It is a great honour for anyone to give *fakaafe* on this [292]
occasion. This privilege is conferred upon him by the steward of the [554]
church. In this village, eight men, (4, 6, 14, 16, 29 - steward, 30, 32, 34) [794]
in the Free Wesleyan Church and four men (2, 18, 26, 27) in the Free
Church of Tonga have been privileged to give *fakaafe* for many years.
Some of their kinsmen who help to make *umu* (food cooked in an earth [252]
oven) are then invited to share the joy of the feast. This occasion offers
us a good opportunity to observe kinship functioning. The details of
the feast are as follows:

TABLE 8 — *Fakaafe*

Household number	Those who prepared food	Those who took a meal together	Food served
4	the members of his household only	32 (*malanga*), 8 and his wife, The household members.	4 pieces of yam, 3 of *kape* (*Alocasia macrorrhiza*), 20 of sweet potato, 12 fish, 1 pig, 2 chickens, etc.
6	his son and 12	30 (*malanga*), 5. The household members.	10 pieces of yam, 2 of *kape*, 1 basket of sweet potato, some fish, 1 pig, 4 pounds of canned beef, 4 pounds of canned mutton etc.
14	two of his friends, the members of his household	28 (*malanga*), 20, a woman from another village.	6 pieces of yam, 2 of *kape*, 20 of sweet potato, 12 fish, 1 pig, 3 chickens, 12 pounds of canned beef.

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14. Rank differentiation in the different churches varies a little.

TABLE 8 — *Fakaafe* (continued)

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Household number	Those who prepared food	Those who took a meal together	Food served
16	24, 28, 23, 15, 22, 21's daughter's husband	22 (*malanga*), 4, 28, 23, 28's children, *24* & his wife, *15*, 5's brother, *21's daughter's husband*, husband's sisters, wife's sisters.	16 pieces of yam, 6 of *kape*, 20 of sweet potato, more than 20 fish, 4 pigs, 6 pounds of canned beef, etc.
29 steward	23's wife, his friends	5 (*malanga*), 8, 23's wife, wife's brother's son.	4 pieces of yam, a lot of sweet potato, 4 fish, 2 pigs, etc.
30	the members of his household, 31's wife.		
32	the members of his household only	The household members 29 (*malanga*), 34, 30's son, one friend.	6 pieces of yam, 1 of *kape*, 30 of sweet potato, 10 fish, 1 pig, etc.
34	1, 16, 5's son	6 (*malanga*), a couple of his friends. The household members.	5 pieces of yam, 2 of *kape*, 40 of sweet potato, 20 fish, 1 pig, etc.
2	the members of his household only	7 (*malanga*), *33's wife 33's brother and his wife, 8 and his wife* (2's daughter), *9's daughter.*	4 pieces of yam, 4 of *kape*, 2 baskets of sweet potato, 1 fish, 1 pig, 1 chicken, 1 duck.
18	the members of his household only	*malanga* (next villager), 2, 27 and his wife, 25 (steward) and his wife, *19's wife.*	8 pieces of yam, 1 of *kape*, 6 big fish, 4 small fish, 2 pigs, etc.
26	31	18, 25, 27, 31.	8 pieces of yam, 8 fish, 1 pig, etc.

Note to Table:
Those italicised belong to different religious sects from the host.

The father is privileged to choose the name giver for his children. 553
The first born baby, regardless of sex, is always named by the father's 602
relations, with a special preference to the father's sister, irrespective of 593
residence. Since the second and the subsequent children are inferior in 604
birth significanc to the first baby, the father may then grant a maternal
relative's desire to name a child.

VII — Weddings and Funerals

The rank of individuals among *famili* is emphasised on ceremonial 612
occasions such as weddings[21] and funerals. I will describe these cere- 554
monial procedures from the view-point of kinship behaviour. 585 764

A boy tells his love to a girl, and if she agrees, he will ask his parents' 128
consent. If they do, he or his father goes to an old man closely related to
him to ask his favour of becoming *matapule.* Then he with the boy 584
makes a formal visit, *faitohi,* to the girl's house, taking some *kava teletele* [276]
(big roots of *kava*). On *faitohi, matapule* tells her father that the boy [574]
eagerly wishes to marry the girl. When her father is ready to accept
their proposal, he consults with her elder brother or *ulu i famili* as soon
as possible. And if he agrees to the matter (and generally the *ulu i famili*
will not object), the people concerned confirm the girl's will. The
marriage is now arranged. The *kava teletele* brought by the *matapule* is [276]
prepared, around which the *matapule* and the girl's parents sit to drink.
The first cup of kava is taken to the *ulu i famili* on the girl's side, the [574]
second to the *matapule,* the third to anyone present. A few weeks later
after *faitohi* the wedding takes plaec.

In the afternoon of the day before the wedding-day, the boy's father 585
cooks *umu* and roast pigs to be given to the girl's family. At the sunset, [252]
the girl dresses up in formal wear such as *fihu, kei* (both, a kind of mat) [292]
and *ngatu* (bark cloth). Inside her house is nicely arranged, bark cloths [352]
and mats over the floor. Then the boy in formal dress comes with his [292]
followers. The *fakalelea mali* begins now. The bride and the groom
sit respectively on the laps of their *fa'e tangata.* Sometimes *fakafeangai,* 585
attendants, of the bride and the groom may sit beside them. On this 276 574
occasion the first *kava* cup is taken by the bride,[22] then by the groom.
If they do not want to drink, the *fakafeangai* may drink it in place of
them. Drinking *kava,* and eating *fono* (*kava* relish, such as bread, pork, [262] ●
and puddings of various kinds, etc.), they spend the time cheerfully
chatting until next morning. When *faikava* is nearly over, the bridegroom
and his followers take off their clothes to give them to the bride and her
family. Through excess of joy, sometimes, they strip themselves of even
their trousers and shirts. The bride's people bring bark cloths and clothes
to cover them. The bride also takes off her dress to give to the partner.

On the morning of the wedding, they go to the town for registration. 585
Usually they hire two motor cars which they decorate with *kie.* The bride
and the bridegroom ride separately with each of their *fa'e tangata.* Other

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21. Collocott 1928: 121-5., Beaglehole 1941: 91-96., Koch 1955: 76-81.
22. Collocott writes that the bride who is the chief of this occasion takes the third cup, that is the chief cup. A middle-aged woman told me that the first cup was the chief one.

591 household, but economic necessity or expediency. So far
592 as household organization is concerned, what Leach wrote
171 591 about the Sinhalese could apply equally well to Tonga:

> 592 Although . . . the language of kinship plays a dominating role in the expression of social relationships, social behavior is not constrained by the prior existence of kinship corporations. It is not so much that the Sinhalese order their economic lives in accord with kinship relations as that their kinship relations are an expression of the way in which they order their economic lives (1960: 123).

592 611 The resources available to the Tongan household must be sufficient to provide for three types of expenditures: expenditures for everyday material needs, periodic cash outlays, and contributions on ceremonial occasions.

The everyday material needs of a household on Tongatapu consist mainly of foodstuffs and fuel, plus petty cash for items such as bus fares, matches, and soap. Foodstuffs and fuel are derived mainly from locally-cultivated
262 subsistence products. A lot of tuberous vegetables are
264 eaten--about one pound per person per day. A typical everyday main meal consists of haka (a pot of boiled sweet-potato, manioc, yam, plantain, taro, or breadfruit--according to what is available on a seasonal or daily basis) plus a small amount of kiki ('relish'--i.e., some form of animal meat), or a stew (supo) made of the same ingredients. A modest morning or evening meal might consist only of cold leftovers or, in the morning, tōpai (a thick porridge of flour and water) and cocoa to drink. Kiki for the main

262 meal might be locally-caught fish or shellfish or canned
264 fish (imported), canned meat (usually corned beef), frozen
mutton (imported from New Zealand), or some pork or
chicken left over from a feast (for Tongans do not
slaughter their livestock to provide mere daily fare).
262 On more remote islands, people have to rely mainly on
fresh fish, which they catch themselves. On Tongatapu,
however, most kiki is purchased, and a little kiki goes
[435] a long way. A string of ten small fish, weighing about
three pounds in all, costs 50 cents; two pounds of
cartilaginous breast of mutton costs about 36 cents (these
are 1969-70 prices). Each of these amounts is sufficient
for kiki for a household of six or seven people. Other
everyday foodstuffs that are purchased include bread,
hardtack biscuits, flour, sugar, salt, tea, cocoa, and
[511] sweetened and dried condensed milk. The frequency and
amounts of such purchases varies mainly according to how
much cash is available.

592 A household must also have labor available to produce,
511 prepare, and make use of these products, hence the need for
'human capital'. This requirement is particularly evident
in the composition of one of the households in Motulahi,
where an elderly couple and their fourteen-year-old
[597] granddaughter comprised the household. I was told that
the girl had been adopted by them "ke tauhi kinaua--to

592 members to make adequate contributions of goods and labor
511 on a wide range of ceremonial occcasions that occur at
476
621 irregular intervals throughout the year such as feasts,
funerals, and weddings. There is a class of goods called
koloa ('treasure') that come into play only on ceremonial
[285] occasions. These consist mainly of finely-woven mats of
[287] various kinds (*kie*, *fihu*, and *ngafingafi*) and decorated
[554] tapa-cloth (*ngatu*). *Koloa*, which is amassed through
[431] manufacture by women of the household or through previous
ceremonial prestation to members of the household, is
used to express status relations between giver and
receiver on occasions such as weddings and funerals.[7]
[431] If one does not have *koloa*, one cannot participate in
ceremonial exchanges, and not to do so is to be outside
the system of rights and obligations that are the foundation
592 of *anga faka-Tonga* ('the Tongan way'). Similarly,
621 to participate in the community, a household must give
476
574 feasts and contribute to others' feasts. Contributions
● [262] consist mainly of appropriate livestock or other foods:
pigs, chickens, lobsters, tinned beef, yams, watermelon
--in sum, feast food. To some extent, services such as
assistance in preparing and serving the feast can be

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[7] For descriptions of ceremonial exchanges in Tonga, see Aoyagi (1966: 167-172), Beaglehole (1941: 91-98), and Collocott (1923: 221-225).

621 794 798 in the person's home village.[6] Thus there is seldom an occasion to confront the fact that there are differences of denominational affiliation within the village.

Doctrinal differences among the denominations are seldom discussed within the village, not even among members of the same denomination. If asked, an informant would undoubtedly affirm the superiority of the doctrines of his/her own denomination, but the point is that comparisons of doctrine are seldom made, nor do people seriously [262] deprecate the beliefs of others. The only common exception to the general appearance of inter-denominational tolerance in Motulahi is that Seventh Day Adventists are occasionally spoken of derisively as kai-kosi (goat eaters), a reference to the fact that they do not eat pork, the primary status food in Tonga. In addition, snide remarks are sometimes made about Mormon activities such as full-time proselytizing, genealogical research, and costume parties, all of which are perceived as being most unTongan and peculiarly Mormon. Some members of the Free Wesleyan Church in Motulahi assert that the Mormon Church is not a truly Protestant church, and a few go so far as to say that the Mormon religion is not a true Christian religion (which is a particularly shocking thing to say in Tonga). However, I suspect that

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[6] These activities are described in Decktor Korn 1977.

On the 10th Feenough dined on
262 board as indeed he did every day, after we had dined some of his
412 servants brought on board a mess for him, it consisted of fish soup and
634 yams; the fish and soup was brought off in a Plantain leafe. Instead of
648 common water to make the soup they had made use of Cocoanut water in which the fish had been boiled or stewed; this was probably
252 done in a wooden vessel with hot stones. I tasted of it and found it so good that I had afterwards fish dress'd the same way and found it very good though my Cook did not come up to theres.

122 SUNDAY 11*th*. Finding that we had quite exhausted the island of all most every thing it produced I this day got every thing off from the
[634] shore, intending as soon as the Discovery had recovered her best
[648] bower anchor, to proceed to an island called Happi,[1] laying to the NE where Feenough told me I should meet with every thing I wanted and strongly importuned me to go thither before I visited Tongatabu.

Mon. 12
Tues. 13
Wed. 14

The 12th and 13th was spent in recovering the Discoveries Anchor which was at last accomplished[2] and on the 14th in the Morning we weighed anchor and steered for Aghao,[3] with a view of passing to the NW of the small islands that lay to the North and NE of Anamocka,[4]
[634] as I could not be assured of a passage amongst them. Feenough and some others remained on board till near noon when they embarked
[648] in a Canoe and stood in amongst [the] islands.[5] At 4 PM being the length of Ogodoo[6] we steered to the north, leaving Omattafoa[7] and Aghao on our larboard, keeping along the West side of a reef of rocks which lay to the westward of Ogodoo, till we came to their no[r]thern extremity round which we hauled in for the island with a design to anchor for the night, but it came upon us before we could find a place in less than 55 fathom water, and rather than come to in this depth I choose to spend the night under sail.

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[1] Ha'apai is the penultimate northerly group of Tonga, not a single island. Clerke got it as 'henua Arpi': 'henua' = conventional Tongan *fonua*, cf. Tahitian *fenua*, Maori *whenua*. He adds, '. . . the word Arpi I find in their Language bespeaks a cluster or Group of any thing wherever it is applied'.—17 May. Here he has, quite intelligibly, been confused by another word, *'api 'api*, which means crowded or full (as of a road or a basket).

[2] 'On Tuesday Afternoon chiefly by means of some Oyl thrown on the Water which renderd the Surface so smooth that the Anchor was seen at the bottom altho' in 17 fathoms, and the position in which it lay discoverd.'—Edgar, 8 May.—'This Anchor may in the course of the Voyage be of such Consequence that I am determin'd nothing but a conviction of an impossibility of getting it, shall send me away without it.'—Clerke, 10 May.

[131] [3] Kao, the beautiful cone-peaked island, 3,380 feet high and thus a prominent mark, two miles NNE of Tofua. It lies due west of Ha'ano, the most northerly of the bigger islands of the Ha'apai group.

[4] The low islands of the Kotu or Ha'apai Lulunga group, small, scattered, but linked up with dangerous reefs, shoals, rocks and breaking seas, and without good anchorage. For Cook's complicated track about this group and Ha'apai see Fig. 5.

[502] [5] '. . . thier rate of sailing was about 3 feet to our 2, and in turning to windward they sailed above a point nearer to the wind than our Ships when sharp trimmed.'—Burney.

[6] Kotu, the westernmost island of its group. [7] Tofua.

[103] A [See category 102 , p. 104--Analyst]

for by Polaho and soon after Feenough came and acquainted me that 648
young Fattafee, Polaho's son, wanted me. I left Toobough and went
with him, And found the Prince and Omai seting under a large 643
Canopy of the finer sort of cloth with a piece of the Coarser sort 644
spread under them, that was 76 yards long and 7½ broad. On one
side was a large old Boar and on the other a heap of Cocoa-nuts; a 648
number of people were seated round the cloth, amongst them Mari- 643
waggy and others of the first rank. I was desired to set down by the 644
Prince and then Omai informed me that he was desired by the King 431
to tell me that as he and I were friends he hoped his son might be
joined in that friendship, and that as a token I would except of his
present. I very readily agreed to the proposal and as it was now
dinner time I invited them all on board to dinner, viz. the young 648
Prince, Mariwaggy, Old Toobough and Feenough; they were accom- 643
paned by three or four inferior chiefs and two respectable old Ladies 644
of the first rank. Mariwaggy was dressed in a new peice of cloth, on
the skirts of which was fixed six pretty large patches of red feathers: [634]
this dress seemed to have been made for this visit, for as soon as he [292]
got on board he put it of and presented it to me to whom it was [237]
valuable on account of the feathers. I made all my visiters such pre-
sents as I had reson to think they were highly pleased with. When [431]
dinner came on table not one of my guests would sit down or eat a [262]
bit of any thing that was there. Every one was *Tabu*, a word of a very
comprehensive meaning but in general signifies forbidden. After [784]
dinner, and they had seen all over the Ship, I conducted them a
shore, as soon as the boat land[ed] Feenough and some others in-
stantly steped out, young Fattafee was following them but was called
back by Marriwaggy, and he Old Toobough and one of the old
Ladies paid the young Prince the same obeisance and in the same
manner as is paid to the King; this done he was suffered to go and
the old people steped into a Canoe that was waiting to carry them to
their place of aboad. This Mariwaggy and Old Toobough were 643
Brothers they were both men of great property in the island and
seemed to be in high favour with the people; the former was Father 644
to Feenough, & Tooboughcitoa and Father in Law to the King, he
having married one of his Daughters by whom he had this Son—
consequently Mariwaggy was the Prince's grandfather.[1] On my 648
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[1] The relationships as stated here need some modification, owing to the ambiguity of the Tongan words used to explain them. Maealiuaki and 'old Toobough' were full brothers, on the assumption that the latter was Tupou'ila, both sons of Ma'afuotu'itonga, 6th Tu'i Kanokupolu, and the same mother. Maealiuaki was 'classificatory father', *tamai* (cf. p. 125, n. 2 above), to both Finau, son of Tu'itu'iohu, a chief in Vava'u, and Tupouto'a his half-brother. Maealiuaki's daughter Kongakava was Paulaho's wife, but an 'additional

312 first were mostly in land and the latter by the shore of the Lagoon
and for the most part below high water mark, so that to have the
water tolerable it must be taken up at low water.

648 When we returned from our walk, which was not till the dusk of
the evening, our supper was ready, it consisted of a baked hog some
262 fish and yams all excellent well cooked after their own method. As
513 there was nothing to amuse us after supper we followed the Custom
of the Country and laid down to Sleep, our beds was a large piece of
Cloth spread on the floor. The King slept in the same house as well
521 as several others. Long before day break they rose and sat chating by
Moon light till it was day light; the conversation, as might well be
expected, turned wholy on us, the King entertaining the Company
Frid. 27 with an account of what he had seen. As soon as it was light they all
512 went away, some one way and some a nother, but it was not long
before they returned and with them several more. They now began
648 to make a bowl of Cava at which I left them to pay a Visit to Toobough
Captain Furneaux's friend, who had a house hard by, which
276 for size and neatness was exceeded by few in the place. As I had left
the others so I found here, a company preparing a Morning draught.
[431] This Chief made me a present of a living hog, a baked one, a quantity
of yams and a large piece of Cloth.

When I returned to the King I found the company drinking the
276 second bowl of Cava. When it was out the King told Omai he was
765 going to perform a Mourning ceremony for a Son which had been
dead some time and desired we would acompany him. We were
643 glad of the oppertunity expecting to see some thing new or Curious.
[292] The first thing the Chief did was to step out of the house, attended by
two Women, and put on a new sute of Cloathes, or piece of Cloth,
and over it an old ragged mat that might have served his great grand
Father on some such like occasion: his Servants or those who attended
him were all dressed in the same manner, excepting none of
[824] them having quite so ragged a Mat round them as their master.[1] Thus
equiped we marched off preceded by about eight or ten persons all
dressed in the same manner and with each a small green branch
about his neck. The King held his in his hand till we drew near the
place of rendezvouse when he tied it about his neck also. Thus we
entered a small inclosure, in which was a small neat house and one
[824] man seting before it. As they entered they pulled off the green
branch from round their necks and threw them away. After the King
was seated the others seated them selves in the usual way before him;

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[1] This was the *ta'ovala*, still worn as a sort of sash-apron; the raggedness was not for normal wear, but a sign of mourning.

513 night.[1] One would at first think this would produce the Contrary
643 effect to what is intended but it is not so, for it creates a very agreeable
and pleasing sensation. Omai and I now went to visit the Prince
644 who parted from us early in the evening, for he did not lodge with
the King but in apartments of his own, or such as had been alloted
him some distance from his Fathers; we found him with a Circle of
Boys or youths like himself before him, and an old Woman and an
old man who seemed to have the care of him siting behind; there
were others both men and Women who seemed to make a part of his
household, that were employed about their necessary affairs in different
648 apartments. From the Prince we returned to the King, by this
time he was up and had a crowded Circle before him, composed
643 chiefly of old men; while a large bowl of Cava was preparing a
276 Baked hog and yams Smoaking hot was brought in, the greatest part
264 of which fell to our share, that is to the boats crew, for these people
eat very little in a Morning and especially the Cava drinkers. I afterward
512 walked out and visited several other Chiefs and found that all
of them either were or had been taking their morning draughts. Returning
512 to the King I found him a Sleep in a small retired hut with
two Women taping his[2] breech. About 11 oclock he got up, some fish
643 and yam, which tasted as it had been stewed in Cocoanut milk, was
brought him of which he eat a large portion and then laid down to
648 sleep again, when I left him to visit the Prince and to make him a
644 present of Cloth, Beads &c^a^ I had brought with me for the purpose;
there was sufficient to make him a compleat suit of Clothing, in
which he was immediately dress'd. He first went and shewed himself
to his Father, and then carried me to his Mother, with whom was
ten or a dozen other respectable looking Women. Here the Prince
changed his apparel and made me a present of two peices of their
648 Cloth. By this time it was pass'd Noon, when every one of us according
to appointment repaired to the Palace to dine and presently after
643 dinner was served up consisting of two Pigs and yams, I rouse'd the
262 King up to pertake of what he had provided for us. In the mean
time two Mullet and some shell fish was brought him as I supposed
for his dinner; he joined it to ours, sat down with us and made a
hearty meal.

651 Soon after dinner was over, we were told that the ceremony would

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796 [1] This was the sort of massage called *tukituki* (*tuki*, to strike). It served to relieve pain,
123 lassitude, and fatigue, says Mariner, to 'give very great ease, producing a soothing effect upon the system, and lulling to sleep'.—II, p. 233. There was a variant: 'Sometimes, when a man is much fatigued, he will lie on the ground whilst three or four little children trample upon him all over; and the relief given by this operation is very great'.—ibid.

[2] *his*: MS *is*.

the family sleep on the floor where ever they please to lay down, the 352
unmarried Men and women each by themselves, or if the family is 513
large they have small huts without to which they retire to sleep, so
that privacy is as much observed here as one can expect. They have [291]
mats made on purpose to sleep upon, and the clothes that they wear
in the day, serve them for covering in the night. Their whole furniture
consists in a bowl or two in which they make the Cava, a few 352
gourds, Cocoa nut shells, and some small wooden Stools which serve 415
them for pillows and and perhaps a large Stool for the Master of the family.

Food and Cookery Their food and Cookery have been so often men-
tioned that it is almost needless to add any thing 262
further, Yams and Vegetables makes the greatest part of their food,
nay I beleive yams alone does, these they cultivate with much labour
and have them in very great perfection. Fish is prefered to hogs[1] and [231]
poultry which are the only tame animals they have except dogs; nor [136]
is there any wild animals except rats and birds. Thier food is dressed
generally by baking in the same manner as at Otahiete, and they
have the art of making from different kinds of fruit several dishes 252
which most of us esteemed very good. I never saw them make use of
any kind of Sauce, nor drink any thing at their meals, but water or 272
the juice of the coca-nut for the Cava is always drank in a morning.
I cannot say they are cleanly either in their Cookery or eating, the 264
generallity of them will lay their victuals upon the first leafe they
meet with be it dirty or clean but the Chiefs have their victuals [415]
generally served up on green plantain leaves. When the King made [a]
meal he was for the most part attended upon by three or four per- [643]
sons, one cut large pieces of the joint or fish, whatever it was, a [644]
another cut it into mouthfuls and others stood by with Cocoanuts and
what else he might want.[2] I never saw a large company sit down to
what we would call a sociable meal, that is to all eat from the same
dish; the Victuals, be what it will is always divided in to portions,

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wide, clean & cool, we had the Glimpse in many of the inclosures of pretty young women,
which convinced us that their principal ladies were kept out of our sight, as they were very [562]
shy. . . . In the inside of the dwelling houses, are matts spread on the Ground; & a thick
upright mat work 2 or 3 feet high which inclosed a Circular space for the Master & [609]
Mistress to sleep in, in the Night; & the principal women are fond of sitting within this
kind of fender or skreen in the day time out of doors.'

[1] The point here rather is that hogs were forbidden to commoners. All the land and its
products being regarded as the property of the Tu'i Tonga, he, and chiefs deriving their [565]
precedence from him, had priority over the mere *tua*. All pigs over a certain size were *tapu* [421]
except for chiefs: even their 'owners' could not consume them. The same rule applied to [643]
large fishes, which had to be handed over on pain of severe punishment.

[2] These persons were *matapule*, officials of near-chiefly status, though not chiefs, who were appointed for the purpose.

114 water, and we had an oppurtunity time enough to warn our consort
of the danger by firing three swivels.

In the fore noon we attempted to work up towards Hafaiva (which
is the largest isle hereabouts) between Pootoo poo'tooa & a shoal that
lyes NE from Kotoo, but making little progress and the same weather
being likely to continue, we came to an anchor at noon in fifty
fathom a coarse sandy bottom about a mile WBN from Pootoo
poo'tooa, Fotoohàà bearing nearly NNE, Kotoo SWBS, and the shoal
to the NE of it SSE and SE. The Discovery also came to soon after a
[439] little to the NE of us. Several Canoes came off from Ha'faiva with
Cocoa nuts & Plantanes and in the morning we sent the pinnace on
[481] shore to Kotoo with our Indian guests, who were so heartily tir'd of
their short Voy[age] that they had once prepar'd themselves to swim
[262] to it. Their greatest distress was with respect to their food, for they
were not fond of Pork dress'd after our manner and liv'd chiefly on
Yams. In the evening we caught a large Snapper of twelve or fourteen
Lib. and a Grooper of the same size.

132 MONDAY 2^{d}. The wind SE. Fresh breezes with cloudy weather in the
forenoon, but afterwards clearer. In the forenoon the Captain went
648 on shore to Kotoo, which is scarcely accessible to boats from the coral
reefs that surround it. It is not more than a mile and a half or two
133 mile long and not so broad. The NW end is low like the islands of
Hapaee, but it rises suddenly in the middle and terminates in reddish
clayey cliffs at the SE end about thirty feet high. The soil thereabouts
is of the same sort as in the cliffs but in the other parts it is a loose
[311] black mould. It produces the same things as the other islands and is
[162] tolerably cultivated but is thinly inhabited. We saw Annamooka
from the highest part of it and the Capt^{n} thought he perceivd a clear
137 passage about Toong'ooa and the other isles towards that place. Our
people were employ'd in cutting some grass for the cattle and we
177 planted some Melon seeds with which the natives seem'd much
pleas'd and inclos'd them with branches. On our return to the boat
312 we met with two or three ponds of water but it was very salt, and
764 near them was one of their burying places that was much neater than
those which were seen at Hapaee.

Several Canoes came from the different islands to barter their cocoa
439 nuts, plantanes &c and we observ'd that almost all of them as well as
164 the inhabitants of Kotoo were affected with a violent cough and
slight sore throat, which also made its appearance on board for two
days past, perhaps from the sudden change to and continuance of the
bad weather.

764 remarkable except a Fyatocka of one house standing on an artificial mount at least thirty feet high. A little on one side there is a pretty 644 large open Area and not far from it a good deal of uncultivated ground, which upon enquiring why it lay waste they seem'd to say 311 belong'd to that place which was Poulahos, and not by any means to be touch'd. There was also at no great distance a number of E'toa 196 Trees on which clung millions of the large Ternate Bats[1] making a disagreeable noise. We could not kill any at this time for want of muskets, but some that were got at Anna'mooka measur'd near three feet when the wings were extended.

On returning our host orderd the hog that had been dress'd to be 648 brought, with several baskets of bak'd yams and some Cocoa nuts, 514 but we found that instead of his entertaining us we were to entertain 264 him, the property of the feast being entirely transferr'd to us his guests who were to dispose of it as we pleas'd. The person who cleand ● [262] it in the morning cut it up (but not before we desird him) in a very dexterous manner with a knife of split Bamboo, dividing the several parts with such quickness and hit the joints so exactly that surpriz'd us very much. The whole was set down before us, though at least fifty pound weight, untill we took a small piece away and desir'd they would share the rest amongst the people sitting round, but it was not without a great many scruples they did that at last, and then ask'd what particular people they should give it to. They were however very well pleas'd when they found it not contrary to any custom of ours, some carrying off the portion that was given them and others eating it on the spot, but it was with great difficulty we could prevail on Futtafaihe himself to eat a small bit.

After dinner we went with Futtafaihe and five or six people who 765 attended him to the same place where Poulaho had carried us in the [114] morning the last time we were at Mooa, but not into the inclosure. They hung some leaves about their neck in walking to it as he had [824] done, and when we came to a large open boat house where a few people were they threw away their leaves, sat down before it and [304] gave their cheeks a few gentle strokes with the fist, after which they sat for about ten minutes with a very grave appearance & went away [292] without having spoke a single word. Every person who went to this house of mourning had a mat tied over the cloth they wore which was also the case the day Poulaho went. This explaind what Poulaho had mentiond about Tooge, though from the beating only lasting a few seconds he had not been observ'd to do it; and this seems only a

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[1] *Pteropus tonganus*; Cf. Bayly, II, p. 263, n. 3. This was evidently the bat that the Tongans called *tavoatoa*.

continuation of the mourning ceremony by way of condolance, for
upon enquiring who it was done for they said it was a chief who had 765
died at Va'vaoo some time ago, that they had practic'd it ever since
and would do it for a considerable time longer.

In the evening we had a pig dress'd as the hog with Yams and 648
Cocoa nuts brought for supper, and Futtafaihe finding we did not 574
like the scruples they had made before to accept of any part of the
entertainment, ask'd us immediately to share it & give it to whom we 264
pleas'd. When supper was over abundance of cloth was brought for 262
us to sleep in but we were a good deal disturb'd by an odd custom, at
least amongst the better people, of being beat while they are asleep. 519
Two women sat by Futtafaihe and perform'd this operation, which is
call'd Tooge Tooge,[1] by beating briskly on his body and legs with
both fists as if on a drum till he fell asleep, and continued it the
whole night with some short intervals. After being asleep they abate
a little in the strength & quickness of the beating, but resume it if
the person is likely to wake, and towards the morning we found the
women relievd each other by turns & went to sleep. In any other
country it would be suppos'd such a practice would put an end to all
rest, but here it certainly acts as an opiate and is a strong proof of
what habit may effect. The noise made by this was however not the 521
only thing that prevented our resting, for the people who slept in the
house not only convers'd amongst each other frequently as in the 264
day but all got up in the midst of the night & made a proper meal of 262
fish and yams, which were brought to them by a person who seem'd
to know very well the appointed time for such things.

[JULY 1777]

TUESDAY JULY 1st. The wind N and NNW. Gentle breezes with fine 132
weather. In the morning we set out with Futtafaihe and walk'd down
the east side of the Bay to the point that is opposite Hoolaiva. The 114
country all along this place is very well cultivated but in general not 648
so much inclosd as at the bottom, and amongst many others that are
very large we pass'd one plantane field at least a mile long which was 311
in excellent order, every tree growing with great vigour and not a 245
bit of grass to be seen. We found that in travelling Futtafaihe
excercis'd a power, though by no means wantonly, which pointed 643
out the great authority of some of the principal men, or is perhaps
only annex'd to the royal family; for he sent to one place for fish, to
another for yams &c and so on at other places, which were always
brought with the greatest readiness as if he had been absolute master

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[1] *tukituki.*

[1777]

352 stiff kind of mat that stands by itself & forms a low partition, which is
[285] also us'd to hang around the part of the house open to the wind in
[513] bad weather. Women of consequence sometimes sit in their houses
[562] in the day surrounded or enclos'd with one of these mats, seemingly
[565] with no other intention than to indicate their superior rank. They
seem to have no set time for meals (though it should be observ'd that
264 during our stay amongst these people their domestic œconomy seems
much disturb'd from their constant attention to us), for the better
276 sort only drink Kava in the forenoon and the others eat perhaps a bit
512 of Yam; but we have commonly seen them eat sometime in the
afternoon, and it would appear that the practice of making a meal in
the night is pretty common as their rest being disturbd in the night
makes them frequently sleep in the day, although they go to bed as
262 soon as dusk at night and get up at dawn in the morning. The
greatest part of their Vegetable diet is Yams, Plantanes and Cocoa
nuts: of their animal food the chief is hogs, fowls, fish, all sorts of shell
fish, and the lower people eat rats. The two first articles with bread
fruit are what may be call'd the basis of their food, which they have
at different times of the year with fish and shell fish, for hogs, fowls
252 & turtle seem only to be ate occasionally by the better people. The
intervals between the season of these things must be sometimes
considerable, as they prepare a sort of artificial bread from plantanes
which they put under ground before ripe, and suffer them to remain
till they ferment, when they are taken out & made up into small
balls, but so sour & indifferent that they often said our bread was
262 preferable though somewhat musty.[1] They also use great quantitys of
the Nuts call'd E'eefee at these times, which is coarser and less
agreeable than our Chesnuts.

252 The method of dressing these things is entirely in the kind of oven
us'd to bake the hogs with, but they sometimes roast the Vegetables
[415] on an open fire, and though they have a few earthen globular pots
[177] they get them from Feejee and are never apply'd to that purpose.
They are as yet almost strangers to the thousand destructive luxurys
which cookery has invented, but nevertheless have a few artificial
dishes, such as a soft pudding made of Talo and other roots with
Cocoa nut scrap'd into it,[2] which gives an agreeable smoothness to
262 every thing dress'd with it. There is also another very palatable sort
in which is put aromatic leaves as seasoning, and they prepare a dish

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[1] This, if accurately observed, is a variation on what Mariner, II, p. 200, calls 'Ma me; fermented breadfruit'. Churchward pleasantly defines *ma* as 'a kind of ensilage (but for human consumption)'; *mei* is breadfruit. Anderson in his own vocabulary explains 'Maa' as 'A sour plantain, by being put underground'.

[2] *po'oi.*

not unlike thick Sago or jelly from the Ma'whaha root, which doubtless 262
affords a great quantity of nourishment; but the most palatable
dainty, at least to us, is the bak'd root of the Sugar cane & Jeejee[1]
which is but seldom met with. A dish of Vegetable and another of fish
or other animal food commonly satisfys them, but we have seen
Poulaho have four besides his yams for dinner, as bak'd pork, the
Crow of the hog dress'd differently, the Talo tops as greens boild or
rather sodden in oil or fat, and a bak'd Cuttle fish.

They seldom eat in their houses, but in fine weather sit down under 264
the shade of a large tree and have their meal brought in baskets of
Cocoa leaves to them, which is commonly divided into as many 415
portions as there are people and laid before them in plantane or
other leaves, with a small reserve in case any one should wish to eat
more than his first share. They have some hollow'd wooden dishes
but are not so commonly us'd as the leaves. Their only knives & 264
forks are a bit of Bamboo or their hands, but many of the principal
people have each mouthfull (which ar[e] commonly very large) of [412]
fish or pork prepard and laid upon a piece of yam by a servant, so
that they have only the trouble of putting it into their mouths. In
general they are moderate eaters, but their method of feeding does 262
not seem to agree with their personal cleanliness, as they make no [261]
scruple of eating their pork (which is seldom dress'd about the head
& neck from placing it in a round oven) quite raw and bloody and
very frequently fish just as they are caught, as well as all sorts of shell
fish, some of which are reckon'd a great delicacy in that state
especially a particular part of the large Cockle. They are also very
fond of every thing that is fat, and to procure that will even dress their
shark cut up into large pieces by putting a large piece of the liver
between two pieces of the fish, which doubtless yields a very rank oil:
but what is worse they will often eat the vermin from their own heads,
and have been seen to lick up the matter squeez'd from a boil with
their fingers. Their drink at meals is the juice or water of the Cocoa 272
nut, a natural liquor so agreeable that all who taste must prefer it
unless habituated to some pernicious artificial one. Nature seems in
some measure to have supplied her scanty allowance of water to
them from fitting their country to produce large numbers of these,
and in great perfection; but it is not the only provision in this case,
for they often scrape down the kernel of the nut and by mixing it with
water make a fine milky liquor which renders even that naturally
disagreeable article pleasing. When the meal is finish'd they always 264

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[1] This reminds one of the New Zealand use of Ti, *Cordyline australis*, the brother of the 'Jeejee'. 515

784 enter'd by the people, the Ceremony call'd Natche was Taboo'd to
[764 all but those assisting in it, and in short it is the common expression
when any thing is not to be touch'd, unless the transgressor will risque
[651] some very severe punishment as appears from the great apprehension
they have of approaching any thing prohibited by it. In some cases
784 it appears to resemble the Levitical law of purification, for we have
764 seen several women who were not allow'd the use of their hands in
264 eating but were fed by other people. On enquiring the reason of it at
one time they said that one of the women had wash'd the dead body
of the chief already mentiond who died at Tonga, and another who
had assisted was in the same predicament, though then a month
784 after the circumstance happen'd. It also serves as a temporary law or
edict of their chiefs, for sometimes certain articles of food are laid
● 262 under the restriction, and there are other circumstances regulated in
101 the same manner as trading &c when it is thought necessary to stop
it; nay it is probable that the additional word taboo to the name of
the island which is simply Tonga has been added from this very
custom as expressing its singularity.

From the extent and rigid severity with which some of these
784 mourning and religious ceremonys are executed one would expect to
[775] find they think it would secure them felicity in a future life, or some
other material good, which is really the case but it relates to things
merely temporal, for they seem to have little conception of future
punishment for faults comitted in this life. They however believe
that they are justly so on earth and consequently use every method
to avoid or rather not to deserve the punishment annex'd to them.
[776] The supreme Author of most things they call Kalla foo'tonga[1] who
they say is a female, resides in the skys and directs the thunder,
[821] winds, rain and some other things that seem to proceed from thence.
[821] They alledge that when she is angry with them the productions of
[753] the earth are blasted in consequence of it, many things are destroyed
by lightning, and they themselves are afflicted with sickness & death
[761] as well as hogs & other animals—evils so great to them that it is no
wonder they should endeavour to avert them by all the means in their
power. When this anger abates every thing is restor'd to its natural
order and it would appear they think it a consequence of their
776 endeavours to appease it. They have no representation of this
divinity, who they say is invisible, but there is little doubt that they
778 pay that adoration due to their ideas of her power and perfection,
though not discoverable from any particular external posture that

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[1] Gifford (*Tongan Society*, pp. 289–90) thinks this goddess was properly named Calla [?Kala] Filatonga, but otherwise cannot identify her.

56: Samwell D,T-5 (1777) 1967 OU9 Tonga OU9

439 the Hogs or breadfruit, & tho' it was a contraband Trade it was
prosecuted with the greatest Activity & Spirit in defiance of the
[648 severe Penalties with which it was loaded, & in Contempt of that
[565 Danger which attended the Prosecution of this fraudulent & lucrative
Traffick. This Article was no other than red Feathers. It must be
[171] remembered that at Otaheite red Feathers are prized above anything
whatsoever, they being the most valuable offering they make to their
Gods & very scarce at that Island as they have no birds with red
Plumage, this Circumstance was found out by our Circumnavigators
last Voyage, who happening to bring a few red feathers with them
from the Marqeses found what great Value the Otaheiteans set upon
them, preferring them to every thing they had got. This being
universally known in the two Ships it is no wonder that every one
endeavoured to supply himself with a good Stock at these Islands
where they are so plentiful, tho' these people get them from another
Island. The Indians in a short time perceving our eagerness after
them raised the Price of them, so that at last they became so dear
that it was hardly worth our while to purchase them, as the Hatchets
& Shirts we gave them would fetch as much at Otaheite as the small
Quantity of Feathers they gave us for them. However every one
provided himself with a good Stock before we left these Islands &
[292 they turned out to very good Account at Otaheite. The Inhabitants
[301 make Caps of them & various Ornaments for their Dresses, those
they sold us were pasted on Cloth, & had a very beautiful appearance.

Some of us used to go every day shooting wild Ducks, a great
122 number of which were met with on a large Lagoon & some Ponds in
609 the interior Part of the Island, the Indians would generally attend us
& look out for them & when they were shot run into the Pond &
241 fetch them out. Along the large lagoon which occupies a great part
of the middle of ye Island are most delightful walks shaded from the
361 Sun by the branches that meet together over head; the Country
262 throughout is exceedingly well cultivated & has the appearance of a
beautiful Garden; nothing can be more agreeable than the Inclosures
in which their Houses stand, round which the bread fruit & Plantain
Trees grow & extend their friendly Shade over the Natives, while
they sit beneath them partaking of a delicious & wholesome Meal
supplyed by those trees that spread their umbrageous Leaves to
133 defend them from the Rays of too near a Sun. Such enchanting
Prospects does this little Isle afford that it may be said to realize the
poetical Descriptions of the Elysian Fields in ancient Writers, it is
certainly as beautiful a Spot as Immagination can paint; there are
small Hills here & there to vary the prospect, tho' they rise to no

presented us with consisted of Fish and Yams baked, which were 648
very well cooked.

After he saw our people make themselves welcome he went to his 609
own Supper, which consisted also of baked Yams & Fish with the 643
addition of some pudding made of the meat of the Cocoa nut, some [431]
Cocoa nuts stripped of the Husk & some Cups filled with good fresh
Water; the Men who brought the Provisions went away as soon as 644
they had laid down their loads, and as they retired paid their respects
to Powlohow by sitting down cross legged & rising again immediately; 649
the Table off which he supped was a clean Matt laid 264
upon that he sat upon, a basket was opened from which some fresh [262]
Plantain Leaves were taken out, unfolded & laid upon the Matt [271]
before him, & the Yams & fish laid upon them, but the Pudding
remained in the Leaves in which it had been prepared. Two Chiefs[1] [576]
waited upon him, poured some water on his Hands while he washed [516]
them, peeled his Yam & picked the Fish & then fed him, one
putting Fish in his Mouth the other Yam. He did not eat much: as
soon as he had done the two feeders got their Supper, & then every
thing was removed & what was not eaten put into the Baskets & put
by in the House, they eat their Supper just without in the open air.
Soon after Supper was over He desired the two Chiefs to make preparations 644
for his going to sleep, on which they unrolled & spread out
on the floor of the House a large Matt & after that a great parcel of 643
Cloth & laid one of their Wooden bolsters at hand. Powlohow soon 513
laid down & addressed himself to sleep, and the Chiefs covered him [352]
over with the Cloth & then laid themselves on each Side of him.

In a few minutes after a young Woman came into the House & sat down by him, it was naturally concluded that she was one of his Mistresses but in this we were mistaken; her office was to lull the old King to rest by tapping him with both Hands as quick as possible on different parts of his body. He was much troubled with an [164]
asthmatick Complaint which frequently waked him, on which the
young woman immediately renewed the Tuggee tuggee[2] as it is called & laid him again asleep. After having been about an hour and a half busily employed in this manner, finding him fast asleep she respectfully kneeled down & took her leave of him by kissing his feet & touching them with her head, however there are always women in waiting in case he should happen to wake. Everything had gone on 177
hitherto very quietly at the Tents, but in the night the Guard was
alarmed with the Cry of Murder help &c. A file of Marines went 648
directly to the place where the Cry was heard, where they found one

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[1] *matapule*, titled ceremonial attendants.

[2] *tukituki*.

Excursions into different parts of the Country, among others I shall 648
here mention the reception that four of us met with on a Visit we
paid to Toobow, a Chief of the first Consequence who lived about 3 609
or four miles along shore to the Eastward of our Tents. On our arrival 565
being made known to him by the great Croud that accompanied us [431]
the old Chief came out of his Inclosure & met us on the highway, &
then conducted us to his House where we were entirely free from the [576]
Croud, none of whom dared to follow us into his Inclosure; he desired us to sit down which we did & then made him a present of Nails
& other things, for which he thanked us by putting each article to his
head, which is the Custom of these people on receiving any Gift; after
a little while his wives of which he has 2 or 3 came in & sat down with
us, first having paid their respect to Toobow by touching his foot
with their Heads & then with the back & palm of their Hands, and
this Ceremony they always use on coming to his presence as well as on
leaving him. He made some apologies to us in that he was not able to 648
get us any thing for dinner but fish, all the Hogs being at this time
under a Taboo as they had supplied the Ships with as many as they 609
could spare, & this shews How strictly the Chiefs themselves observe 262
those Laws which they make for the public Good. However we made [184]
an excellent Dinner of baked fish & yams, & having brought some
Brandy with us which mixed with the Cocoa nut Milk makes a most
excellent Drink we were not in a Humour to find fault, on the
Contrary we spent a merry afternoon. Toobow having provided a 648
Company of dancers to entertain us, we in our Turns entertained
with Country dances on the green before the House, at which Toobow 609
was much delighted, & we were altogether so pleased with our 836
honest Host & the cordial manner in which he entertained us that
we resolved to stay at his House all night, & to encourage us in this [264]
resolution He promised to procure a mistress for each of us, we wanted [262]
no more & Toobow was as good as his word. About 12 o'Clock we [513]
were waked by the Servants to a repast of fish & yams which was
provided for us (it seems to be a common Custom with these people
to eat ab^t that time of night), we partook of some of it with our
Dulcineas who were all fine Girls & did Honour to Toobow's
Hospitality, we all laid together in one room upon Matts & were
covered with a large Quantity of Indian Cloth. One Girl hearing a [833]
rustling of the bed Cloaths at one time of the Night cried out
'Cohaiia'[1]—ie. what is the matter? the other who was the occasion of
it & then employed ab^t some business or other very innocently

---

[1] *ko e ha.*

512 They bathe themselves about Sunrising either in the small Pools or
[515 in the Sea. In the Morning Parties meet together who form a ring &
533 sing to the beat of Drum & drink Kava after which they eat baked
yams or breadfruit. They dine about noon generally upon baked
276 yams & breadfruit with Puddings made of Plantains, & sometimes
574 the better sort have Pork but more commonly Fish, drinking water
264 with it which they seem to prefer in general to the Cocoa nut milk,
262 not caring so much for that as the meat of the nut. The Chiefs are
271 served at their meals with much Parade, a single yam being often
brought on a pole between two men so that a dinner consisting of a
272 dozen or two of yams, some parcels of baked Fish, Plantains, Cocoa
565 nuts & shells of water & the plantain Leaves for a table Cloth will
264 employ 30 or 40 people. Their method of Cooking differs in nothing
262 material from that of Otaheite which has been amply described in
Captn Cook's first Voyage to that Island. About sunset they play
252 upon their Flutes, sing or sit in discourse with their Women before
171 their Houses; after dark they light Torches in their Houses by which
533 they sit and converse or meet together in large Companies of young
men & women & dance upon the green plats before their Doors.
521 The young women on these occasions make use of many lascivious
535] Gestures & Motions, & so fond are they of this amusement that not a
day passes but many of these dances are performed in all parts of the
[226] Country. While these are employed in following their Pleasures
others line the shores with Torches in their Canoes as a decoy for the
Fish, which they catch in that manner.

Every Chief has his Land inclosed with a hedge of Wicker work
351 about 8 feet high made with Bamboo which has a very neat appear-
417 ance. To this inclosure there is one entrance only, at a door made of
Planks which is kept shut by a long pole resting against it on the
361 inside & it cannot be opened on the outside. Within the generality
of these Inclosures stand about half a dozen Houses among the Cocoa
342 nut & Bread fruit Trees & groves of Plantains; the Houses are small
362 & contain but one family in each, the Shape of them is an oblong
square, the floors are raised about a foot from the Surface of the
ground and always covered with matts, the Eves reach near the
Ground & the sides are made of wicker work tho' some again are
352 quite open. The Married people are seperated at night from the rest
by Skreens made of Strong thick matts which they draw round them,
& these they make use of in the day & move them about occasionally
[415 to defend them from the wind & the Sun. The furniture of their
411] Houses consists of the Garee[1] or Stools which they use for Pillows,

---

[1] *kali.*

197 'peculiar way of speaking.' The language of Niuafo'ou, although it is
Tongan, has a dialect status which shows grammatical relationships with
Samoan. Unfortunately for the world of anthropological linguistics
this dialect has never been fully studied and it is in danger of dying
out, for the younger generation speaks the main dialect of Tongan and
535 only the remaining old people speak the Niuafo'ou dialect. The *tau*
178 *faka-Niua* is a dance local to Niuafo'ou, and it too is in danger of
being forgotten.

133 This chain of volcanic islands is relatively unimportant to Tonga
182 today, but it is these very islands that are important for an under-
standing of the ecology which supports the Tongan social system. The
main inhabited islands of the Tongan group are coral islands, which in
most Pacific areas would be associated with lack of fertile soil and
[134] often a subsistence level economy. In Tonga, however, the flat coral
islands have reaped the harvest of the close volcanic islands and the
resulting deep, rich volcanic soil has made it possible to develop an
economy of surplus to maintain Tonga's highly stratified social system.
[162] The population concentration is mainly on these low-lying islands to the
134 east of the volcanic chain. The largest of this group of limestone
133 islands, Tongatapu, is less than 270 feet high, but in many places has
241 a soil depth of ten feet. The soil is excellent and a very large
proportion of the islands are intensely cultivated. The main food
plants are yam, taro, sweet potato, banana, sugar cane, manioc,
[262] coconut, and breadfruit. In addition, fruit of the mango, orange,

[TEXT CONTINUED ON PAGE 16]

262 pineapple and papaya are eaten in season, and kava is widely grown.
[241] [231] Pigs and chickens thrive and, along with fish and tinned corned beef,
form the main protein in the Tongan diet.

131 Geographically and administratively the Tongan islands can be
divided into three main groups (see map, Figure 2.2). Tongatapu and
[133] 'Eua in the south have by far the largest land area. The central
Ha'apai group consists of small coral limestone islands. Lifuka,
largest of the Ha'apai group, is 4 1/4 miles long and 1 1/2 miles at
its broadest place. The Vava'u group lies 60 miles northeast of
[504] Ha'apai and consists of one large and several small islands. Neiafu
harbor, Vava'u, is one of the best land-locked harbors in the South
Pacific. In addition to these three main groups there are outlying
islands to the north, including Niuafo'ou, Niuatoputapu, Tafahi, Toku,
and Fonualei.

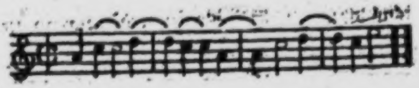
132 The temperature varies from the low 50°s to 90°, the humidity is
usually very high, the mean being almost 80°. Annual rainfall is
about 65 inches per year. There is usually a definite wet season from
December to April and often a draught between October and December.
[312] Until recently all fresh water was rainwater. Tonga is subject to
[731] hurricanes and not infrequently thousands of coconut and banana trees,
the basis of their cash economy, are ruined.

PEOPLE AND LANGUAGE

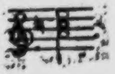
161 This is the geographical setting in which nearly 70,000 people play their daily social roles. The figures of the last Tongan census,

[429 cont.]

175 533 fingers upright. Their voices were very sweet and mellow, and they
sung in parts. When they had done they were relieved by others, who
sung they[a] same tune, and at last they joined together in chorus. A
very ingenious gentleman, who was on this voyage with us, has
favoured me with one of the tunes which he heard in this island,
which may serve as a specimen to the musical part of my readers.



In this little specimen the music is in the minor key, (a flat third.)
They varied the four notes without ever going lower than A or higher
than E; singing them rather slow, and sometimes ending with the
chord.



175 The kindness of the people was expressed in every look and gesture,
609 and they freely offered us some coco-nuts, of which we found the
175 liquor very palatable. We were likewise regaled with a most delicious
137 perfume in this place, which the breeze wafted towards us. It was
a considerable [430] time before we discovered from whence it
proceeded; but at last having looked at some shady trees at the back
of the house, we perceived they were of the lemon tribe, and covered
with beautiful branches of white flowers, which spread this fragrant
175 smell. The natives soon brought us some of the fruits, which we
609 knew to be of the kind called shaddocks in the West-Indies, and
262 pomplemoses at Batavia and the adjacent East-Indian isles. Their
shape was perfectly globular, their size almost as large as a child's
head, and their taste extremely pleasant.

175
417 On both sides of the lawn we took notice of a fence or enclosure
351 [a] [sic!...Analyst]

[431 cont.]

175 cultivated, complicated, and elegant than at the Society Islands.
171
[181] But, in return, the opulence, or rather luxury, of the Taheitians
[433] seemed to be much greater. We saw but few hogs and fowls here, and
[23] that great support of life, the bread-tree, appeared to be very
● [262] scarce. Yams, therefore, and other roots, together with bananas,
[291] are their principal articles of diet. Their cloathing too, compared
to that of Taheitee, was less plentiful, or at least not converted
[342] into such an article of luxury as at that island. Lastly, their
[351] houses, though neatly constructed, and always [432] placed in a
175 fragrant shrubbery, were less roomy and convenient. We made these
171 reflections as we advanced towards the landing place, where several
511 hundred natives were assembled; and their appearance immediately
struck us with the idea, that if they did not enjoy so great a
profusion of the gifts of nature as the Taheitians, those gifts
175 were perhaps distributed to all with greater equality. We advanced
609 among them, and were accosted with caresses by old and young, by men
201 and women. They hugged us very heartily, and frequently kissed our
hands, laying them on their breast, with the most expressive looks
175 of affection that can be imagined. The general stature of the men
141 was equal to our middle size, from five feet three to five feet ten
175 inches. The proportions of the body were very fine, and the contours
142 of the limbs extremely elegant, though something more muscular than
at Taheitee, which may be owing to a greater and more constant exertion
of strength in their agriculture and oeconomy. Their features were
extremely mild and pleasing, and differed from the Taheitian faces,
in being more oblong than round; the nose sharper, and the lips rather
[302] thinner. Their hair was generally black and strongly curled, and
[237]

[173 cont.]

342 eight or nine feet; but the walls, which were not perpendicular,
175 but converged towards the bottom, were not above three or four feet
from the ground, and very neatly made of reeds. The roof converged
into a ridge at the top; so that the section of the house resembled a
pentagon. It was thatched, and the roof projected beyond the sloping
walls of the house. In one of the long sides there was always an
opening about two feet square, and eighteen inches from the ground,
which served instead of a door. The length of the house never exceeded
353 thirty feet, and the breadth was [174] commonly eight or nine. The
262 inside of these houses was always filled with large roots of yams,
175 which seem to be the chief support of the natives. To sleep upon
519 175 them must be extremely uncomfortable; and yet a few mats are only
spread over them at night, which custom has made acceptable to these
[352] people. Those narrow little stools, on which the Taheitians rest the
head, are extremely frequent here, and serve the same purpose. We also
342 175 observed several open sheds, on a few posts, like some which we had
seen at Tonga-Tabboo. These were laid out with mats, and seemed to be
609 intended for their abode in the day-time. In our ramble we passed by
175 a number of these habitations, but saw very few inhabitants, they being
mostly at the trading place. Those whom we met were always very civil,
and bowed their heads, saying, *leleĭ* (good), *woä* (friend), or some
such word, to mark their good temper and disposition. They were our
conductors; they brought us flowers from the highest trees, and birds
out of the water; they often pointed out the finest plants to us, and
taught us their names; we needed only to show them a plant of which we
wished to have specimens, and they would go to any distance to procure it.
[431] Coco-nuts and shaddocks they readily offered to us; and willingly carried

The Village and the Research Scene

101 The village selected for research is on the main island of the
103 Tonga group, Tonatapu. Its name is Puke (pronounced Pookay, please).
[361] Gifford (1926: 196) in his catalogue of Tongan place names enters Puke
as the gloss of fortress.[A] However, the term has several seemingly unrelated
definitions in the Tongan language; the villagers thought the
name referred to a small hill in the village as the term denotes the
small hill above a planted yam. The village is located about 3 miles
[361] west of Nuku'alofa; it is 1/4 mile from the main road going west from
[131] Nuku'alofa and about twice that distance from the lagoon to the north
(See Map 2).

133 The terrain of the village and surrounding lands is flat and low-lying.
361 Village boundaries are easily distinguishable as fallow, and
[241] producing garden plots stop abruptly at the perimeters of the village
compound. For some purposes the village and its population are divided
into three geographically defined sections. The sections are the eastern
section (vahe hahake), the central section (vahe loto), and the western
section (vahe hihifo); the sections are under the leadership of the
noble, the church steward, and the town officer, respectively.

361 Within the village are small patches of low-lying bush and many
245 trees have been left standing or planted; most prominent among the latter
are the coconut palm (niu), breadfruit (mei), mangoe (mango), and
[824] tje tava amd 'ifi trees. Many of the plants and trees growing within
[262] the village have uses as food, medicine, or decoration.

[278] A.[What Gifford actually says is "the outworks of a fortress". See 4: Gifford, this file p.196--Analyst]

The Sociology of Food

262 (114) Maude (1965) presents a good description of Tongan garden products, but being interested in other matters he included only scant information on the relationship between food and the social aspects of Tongan life. [574] [554] Food is ranked just as are most aspects of culture important in Tongans, and feasts are important occasions where the ranking of food should match the ranking of those who partake of it.

Tongans divide food into three major, unranked groups: *kiki* 'flesh', *me'akai* 'starchy tubers', and *foi'akau* 'fruits'. Food as a whole is referred to as *kai* or *me'akai*. The three major divisions described above are not ranked, a complete meal requiring all three. Individual components of the *kiki* group and the *me'akai* group are ranked as to their importance. Ranking varies somewhat from individual to individual, particularly among the least prestigious components. Below I have listed what seems to be a fairly consistent rank ordering of the *me'akai* and *kiki* groups:

	Kiki			Me'akai	
1.	*puaka*	- pork (highest rank)	1.	*'ufi*	- yam (highest rank)
2.	*pulu*	- beef	2.	*'ufilei*	- sweet yam
3.	*kosi*	- goat	3.	*kumala*	- sweet potato
4.	*moa*	- chicken	4.	*talo*	- taro
5.	*'ika*	- fish	5.	*kape*	- giant taro
			6.	*mei*	- breadfruit
			7.	*manioke*	- cassava
			8.	*hopa*	- plantain

262 554 The composition of a family's diet is very much an indicator of status. For instance, a man who continually brings only bananas and

262 554 cassava from his garden to feed his family is criticized for being a lazy man. Boiled green banana are usually thought of as the last resort for a meal.

262 Pigs are the most prestigious food and discussions about the quality and quantity of feasts are carried on in terms of the number and 262 231 size of pigs consumed at the feast. Pigs are grouped into five categories according to "size", which is actually determined by height. Below I have listed the categories from largest to smallest and included the approximate price range of each type to indicate value. Any pig with tusks protruding from the lips is placed in the highest category regardless of its size.

[435]

1.	puaka toho	$T60.00	-	$T100.00
2.	puaka hula	40.00	-	60.00
3.	puaka hahamo	20.00	-	40.00
4.	puaka fakahungo	10.00	-	20.00
5.	umu kaveitau	5.00	-	10.00

262 252 The major cuts of a pig in order of preference and associated prestige are (1) fakala'a, (2) huohua, (3) fuefue, (4) keumu'i, and keumu'a (Figure 3). Skin of the back, cooked to a deep brown, and liberally coated with salt is the favorite of nearly all Tongans. For feast occasions pigs are usually cooked whole in an earth oven or spitted and roasted over coals.

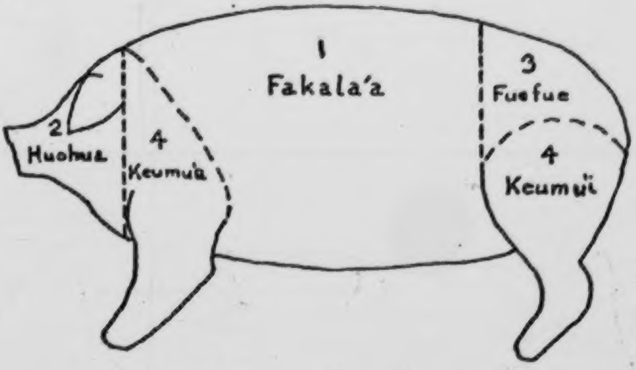
231 Pigs are the best cared for of all domestic animals. They are sometimes penned or picketed and usually fed daily with the skin of yams, taro, sweet potatoes, vines from yam and sweet potato plants, and coconut meat.

73: Morton E-5 (1970-1971) 1977 OU9 Tonga OU9
Puke

FIGURE 3

Major Cuts of a Pig

262
252


1
Fakala'a
2
Huohua
4
Keumu'a
3
Fuefue
4
Keumu'i

● 262 Yams are the other major prestige food and Whitcombe (1930) lists [137] 121 varieties distinguished by Tongans. Most of these varieties are [126] Dioscorea alata and a few varieties are Dioscorea esculenta. In the village of Puke I collected the names of 40 varieties. Yam varieties are distinguished and ranked by the criteria of size, shape, color, firmness, and growing patterns. The yams most prized are white, large, and cylindrical in shape.

574 262 Feasts usually take place in a house or under a constructed shade. The food is placed on plaited coconut frond platters (pola) and set down 574 262 554 end-to-end on the ground. The platter with the largest pig or pigs and the best yams is placed in front of the postion occupied by the highest ranking person present. The further down the line of food from that position, the less prestigious the food so that at the end opposite the highest ranking guests, there may be only sweet potatoes and fish.

The quality of a feast is described by the size and number of pigs and yams served, but the quantity of a feast is described by the number of platters utilized. Ranking at a feast is based on societal rank, not kinship rank. For instance, if there is a noble present he will be given the position at the head of the line of platters and then all others will form a line down the sides with perhaps ministers and older men sitting closest to the noble, moving down to the youngest man of no position. After these people have finished eating, a second group, usually consisting of women and children, will take their places.

127
651 ceremony which involved the presentation of produce and material goods
796 at certain times of the year. An ethnographic reconstruction of the
[121] Tongan ceremony can serve as a test of Sahlins and Goldman and can also
contribute to ethnological comparisons in Polynesia.

244 The Tongans were a horticultural people and the yam, or *'ufi*,
262 was the main crop. The Wesleyan missionary Cross stated "the yam is a
vegetable that is to the inhabitants of Tonga, what bread is to many
in our native land" (Cross, Letter-Journal entry of December 3, 1830).
805 The aboriginal Tongan names of the respective parts of the year, based
244 on the lunar month and thirteen separate designated time periods (Dyson,
Journal, April 7, 1863), indicate the importance of the yam to the
Tongans. Thomas wrote that the month of June was termed "Hilinga
kelekele" by the Tongans and that "they expect the soil to produce
forth now" (Thomas, MS. A1959: n.p.). He also wrote that the Tongans
"expect the soil to produce forth now" and of the yams of this time
period, that "this is the earliest and the best yams" (*Ibid.*). For the
European month of October, Thomas wrote: "Ooloo enga - Uluega" which
is *'Uluenga* for "Ooloo, the head, enga yellow" and at this time the
yams "become yellow" (*Ibid.*).

127 Reading and extracting descriptions by the ethnohistorical
797 chronological-synchronous reading method reveals the changes in the
796 individual missionary's reporting capabilities. These changes of the
651 observer to the observed are evident in the examples from Thomas' manuscript accounts describing the *'Inasi*, transcribed by Thomas as "Inache"
and "Inaji." The first example is from Thomas' 1826 journal, when he

76: Yuncker N-4,5 (1953) 1959 OU9 Tonga OU9

137 [824] This species[1] is frequently used as an ornamental about dwellings, in cemeteries, and so forth.

Tongan name: *longolongo*.

[262] The seeds are said to be edible.

FAMILY PODOCARPACEAE

Genus **Podocarpus** L'Héritier

Podocarpus pallidus N. E. Gray, sp. nov. (fig. 6).

Arbuscula vel frutex 2-6 m. altus, trunco ad 20 cm. diametro, cortice extimo cinereo vel in ramis junioribus fusco, cortice interiore clare rubro-fusco; ramulis numerosis ad ramorum apices verticillatis; alabastris parvis ovatis 2 mm. latis, squamis exterioribus 2-7 mm. longis anguste triangularibus carinatis, apice acuto-acuminatis vel longe attenuatis patentibus vel recurvatis; foliis plerumque ad ramulorum apices confertis, saepe patentibus, pallide viridibus, lanceolatis vel lineari-lanceolatis, 2.5-11 cm. longis, 6-11 mm. latis (juvenilibus 10.5-15.3 cm. longis et 13.5-17 mm. latis), apice breviter acutis vel acuminatis interdum mucronatis, basi in petiolum breve crassum plus minusve gradatim angustatis, margine interdum revolutis; costa supra plerumque basim versus subtiliter prominente, superne complanata vel impressa, subtus late prominente; foliis cum ductis resiniferis 1-5 sub vasi phloemate et interdum 2 supra xylum; strobilis masculis axillaribus sessilibus solitariis parvis ovatis, squamis exterioribus acuto-triangularibus valde carinatis scarioso-marginatis; strobilis masculis maturis 1-1.3 cm. longis et 4 mm. latis eburneis; microsporophyllis triangularibus, apice acutis; strobilis foemineis axillaribus solitariis pedunculo crasso 6-15 mm. longo enatis; receptaculo squamis 2 vel 3 coalescentibus carnosis inaequalibus 7-9 mm. longis demum rubescentibus composito, bracteolis 2 parvis subulatis 2 mm. longis basi subtento, saepe 1-ovulato; semine globoso vel subgloboso carnoso, 10-13 mm. longo, 8-10 mm. crasso, glauco vel caesio, obtuso vel obscure cristato.

'Eua: western plateau region, *Parks 16212*, female (type specimen F*, MO*, US),[3] Powell Plantation, *Parks 16319* (UC*); above Fuai Plantation, near center of island, Mar. 18, 1953, *Yuncker 15319* (US). Found in forests at 200-250 m. alt. on this island.

Vava'u: upper rim of seaside limestone cliff, above Leimatua, on northern side of island, frequent, May 20, 1953, *Yuncker 16082* (US*); in thicket along upper rim of limestone cliff on eastern side of island below Ha'alaufuli, May 22, 1953, *Yuncker 16099* (US*). Found at an altitude of 120 m. on this island.

Tongan name: *uhiuhi*.

P. pallidus is endemic in the Tongan islands and is the easternmost extent of the distribution of this genus in the southwest Pacific regions. It is a typical *Eupodocarpus* type; the seed has a fleshy outer coat and the receptacle is greatly enlarged and fleshy. It is placed in subsection *F* of *Eupodocarpus* because true resin canals are sometimes found above the vascular bundle. This distinguishing character is found only in species from Fiji, Tonga, and New Caledonia. The species most nearly related to it is *Podocarpus decipiens* Gray

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[3] An asterisk after the name of, or symbol for, a herbarium following the specimens examined signifies that the details of the leaves of this specimen have been examined in cross section.

[1] /Cycas circinalis Linnaeus-- Analyst/

[TEXT CONTINUED ON PAGE 48]

C. nucifera is cultivated throughout the world in tropical countries for its many useful properties. Copra, the dried flesh of the seed, is the most important export crop of Tonga. Large plantations of coconut are located on all of the main islands. Trees also grow spontaneously outside of cultivation. 137 245 824 [439]

Tongan name: *niu*. The following varieties are recognized:

Niu kafa: fruit is large and long, but nut is very small; husk fibers are used in making a type of cordage called *kafa*. [283]
Niu kula: fruit is very small, scarcely more than 3 inches long, containing little or no liquid, cavity being filled with white pulp or jellylike substance.
Niu leka: very slow-growing variety.
Niu matakula: base of fruit where stalk joins is red.
Niu mea: fruit is yellowish in color.
Niu mealava: fruit-stalk scar has a red ring surrounding it.
Niu ta'okave: fruits are very small, some yellow and some green.
Niu tea: fruit is pale green.
Niu 'ui: fruit is green.
Niu 'utongau: fruit is mostly green, husk sweet and edible.
Niu vai: fruit is very large, mostly green but sometimes yellow.

FAMILY ARACEAE

Genus **Epipremnum** Schott

Epipremnum pinnatum (Linnaeus) Engler, Pflanzenr. 37 (IV. 23B): 60, 1908. 137

High-climbing, much-branched, coarse, subherbaceous vine. Leaves alternate, ovate-oblong, acuminate, base rounded to cordate, entire, variously perforated with large holes, or larger leaves pinnately divided nearly to midrib into numerous oblong lobes, up to 40-60 cm. long. Flowers small, crowded on a cylindrical, fleshy spadix 2-3 cm. thick and 8-10 cm. long, spadix subtended by a leaflike, lanceolate spathe as long as, or longer than, spadix.

Tongatapu: in forest near sea below Fu'amotu village, Mar. 4, 1953, *Yuncker 15172*.

'Eua: *Lister;* in dense forested ravine north of Fuai, Mar. 19, 1953, *Yuncker 15369*.

Vava'u: near summit of Talau, west of Neiafu, May 24, 1953, *Yuncker 16158*.

Common throughout Tonga in forested areas. Burma to the Philippines and Polynesia.

Raphidophora pertusa var. *vitiensis* Engl. in Hemsley's list.

Tongan name: *alu*.

The long slender stems (called *kaho alu*) are used in the weaving of baskets. [285] [824]

Genus **Colocasia** Schott

Colocasia esculenta (Linnaeus) Schott, Melet. Bot. 1: 18, 1832. 137

Acaulescent, tuber-forming herb. Leaves ovate-cordate, peltate, entire, acute to acuminate, of various sizes but mostly 30 cm. or more long, petiole sheathing at base. Flowers small, on a fleshy spadix surrounded by a yellowish or reddish spathe. 262 824

137 824 262 This species is of ancient introduction and is cultivated as a staple food crop throughout Tonga. A large number of varieties are recognized by the Tongans.

Tongan name: *talo.*

Genus **Alocasia** Necker

137 **Alocasia macrorrhiza** (Linnaeus) Schott, Oesterr. Bot. Wochenbl. 4: 409. 1854.

Large herb with stem 1 m. or more tall and up to 15 cm. or more in diameter. Leaves cordate-sagittate, glabrous, obtuse to acuminate, margins entire or wavy, up to 1 m. long and 60 cm. wide but some varieties smaller, petiole up to 1 m. or more long, sheathing at base. Flowers monoecious, on a fleshy spadix, enclosed in a greenish spathe.

[262] [824] Occasional in plantations. This southern Asiatic species is now widely distributed in Polynesia. The stem is sometimes used as food.

Tongan name: *kape.* The following varieties are recognized: *kape hina, fahenga 'uli, fahenga enge'enga.*

[247] [824] A number of varieties of *Caladium* [*C. bicolor* (Aiton) Ventenat ?] were seen as cultivated ornamentals about dwellings.

FAMILY LEMNACEAE

Genus **Lemna** Linnaeus

Lemna minor Linnaeus, Sp. Pl., 970, 1753.

Minute, floating herb, often growing in large colonies, stem elliptic, 2-3 mm. long, green above, paler or reddish beneath, functioning as a leaf, with threadlike roots. Flowers very inconspicuous.

Tongatapu: in bay of lagoon near Pea, Nov. 23, 1951, *Hürlimann 324.*

The available material of this specimen is meager and the identification is not certain. No previous report of *Lemna* from Tonga is known.

Of Old World origin, now of wide distribution.

FAMILY BROMELIACEAE

Genus **Ananas** Adanson

Ananas comosus (Linnaeus) Merrill, Interpret. Herb. Amboin., 133, 1917.

[245] The pineapple is seen occasionally in plantations, but I saw no extensive plantings.

[824] The Tongan name for the pineapple is *faina.* The following varieties are recognized: *faina,* fruit of medium size, the leaf margins spiny; *faina ha'amoa,* fruit large and not as sweet as other varieties, the leaf spiny only toward the apex: and *faina 'initia,* the leaves at the top of the fruit red.

137 Vava'u: *Crosby.*

Tafahi: in coconut plantation on coastal plateau between Tafahi and Tafe, Dec. 13, 1951, *Hürlimann 510.*

Niuatoputapu: in bushy second-growth forest on volcanic ridge above Vaipoa, Dec. 5, 1951, *Hürlimann 363.*

Frequent throughout the group. From tropical Africa and southern Asia to Australia, the Philippines, and Polynesia.

For an informative discussion of this species, see Merrill in the Journal of the Arnold Arboretum (26: 85-92, 1945).

[287] [824] [381] Tongan name: *mahoa'a.* The tubers furnish starch used as an adhesive in the manufacture of tapa, or bark cloth.

FAMILY DIOSCOREACEAE

Genus **Dioscorea** Plumier

Dioscorea alata Linnaeus, Sp. Pl., 1033, 1753.

Herbaceous or somewhat woody, high-climbing vine with four-angled and winged stems, often bearing small, axillary tubers. Leaves opposite, ovate-cordate, attenuately acuminate, entire, up to 12 cm. or more long, palmately 9- to 11-nerved, petiole nearly as long as blade. Staminate flowers small, greenish, numerous in narrow, paniculate, axillary clusters, up to 30 cm. or more long.

Tongatapu: *Cook.*

Vava'u: *Crosby.*

[262] [824] Cultivated throughout Tonga for its edible tubers, which form an important part of the diet of the Tongan people. A large number of varieties are recognized by the Tongans. A native of the Old World tropics, now of pantropic distribution.

Tongan name: *'ufi.*

Dioscorea bulbifera Linnaeus, Sp. Pl., 1033, 1753.

Herbaceous, glabrous, high-climbing, twining vine. Leaves alternate, oval-ovate to suborbicular, abruptly acuminate, base deeply and obtusely cordate, up to 20 cm. or more long, palmately 7 to 11 or more nerved, petioles commonly half to as long as blade, twisted at base, green or reddish aerial tubers up to 5 cm. or more in diameter often present in the axils. Flowers small, in long, slender, spikelike clusters in axillary fascicles.

Tongatapu: *Cook;* in thicket near Navutoka village, Feb. 27, 1953, *Yuncker 15088.*

'Eua: in thicket along trail near center of island, Mar. 20, 1953, *Yuncker 15383.*

Vava'u: *Crosby.*

Tafahi: ridge of the Piu 'o Tafahi, Dec. 10, 1951, *Hürlimann 425.*

Niuatoputapu: along road between Vaipoa and Falehau, Jan. 2, 1953, *Hürlimann 650.*

Frequent throughout Tonga[1] A native of the tropics of the Eastern Hemisphere extending to Polynesia. 137

D. sativa L. in Hemsley's and Burkill's lists.

Tongan name: *hoi.*

The tubers are said to be poisonous unless properly cooked and are not used as food. [262 824]

Dioscorea esculenta (Loureiro) Burkill, Gard. Bull. Straits Settlem. 1: 396, 1917.

Strong, high-climbing, more or less prickly-armed, subwoody, pubescent, twining vine with large, edible root tubers. Leaves alternate, ovate-cordate to suborbicular or reniform, attenuately acuminate, basal sinus broad, obtuse, up to 15 cm. or more long, woolly-pubescent. Flowers green, 4-5 mm. in diameter, in slender, axillary spikes up to 50 cm. long.

Introduced and cultivated for its edible tubers. From India to the Philippines and Polynesia. [262 824]

Dioscorea pentaphylla Linnaeus, Sp. Pl., 1032, 1753.

Strong, twining, pubescent, somewhat prickly, herbaceous vine with more or less angular stems. Leaves alternate, palmately 3- to 5- to 7-foliate, leaflets elliptic-lanceolate, attenuately acuminate, entire, up to 15 cm. or more long, with numerous, small, oblong, translucent lines, petiolules up to 1 cm. long. Flowers yellowish white, slightly fragrant, in axillary panicles longer than leaves.

Vava'u: in thicket at summit of Talau, west of Neiafu, May 24, 1953, *Yuncker 16157.*

Niuafo'ou: on wall of great crater above Futu, Jan. 7, 1952, *Hürlimann 659.*

Occasional in thickets. From India to the Philippines and Polynesia.

Tongan name: *lena.*

The tuber is edible but of poor quality and is eaten only in times of food shortage. [261 824]

FAMILY IRIDACEAE

Genus **Belamcanda** Adanson

Belamcanda chinensis (Linnaeus) de Candolle, in Redouté, Liliacées 3, pl. 121, 1802.

Short-stemmed herb. Leaves somewhat tufted, up to 50 cm. or more long and 4 cm. wide, two-ranked, ascending, narrowly lanceolate, acuminate, parallel-nerved, the nerves obvious. Flowers short-lived, opening one at a time, about 5 cm. wide, yellow outside, reddish-yellow with red spots within, in a large, many-flowered, di- or trichotomously branched terminal inflorescence; fruit about 2-3 cm. long, seeds globose, black, glossy.

Tongatapu: margin of cemetery near sea below Ha'akame village, Mar. 12, 1953, *Yuncker 15278.*

[1] /Dioscorea bulbifera Linnaeus -- Analyst/

137 [247] [764] [824] Cultivated[1] as an ornamental in villages and cemeteries. A native southeastern Asiatic species now widely distributed as an ornamental in warm countries.

FAMILY MUSACEAE

Genus Musa Linnaeus

Musa nana Loureiro, Fl. Cochinchinensis, 644, 1790.

I was unable to determine with certainty the presence of this dwarf Chinese banana, but it was claimed to grow in Tonga. If so, it is probable that some of the Tongan names listed under the following species refer to it.

Musa paradisiaca Linnaeus subspecies **normalis** O. Kuntze, Rev. Gen. Pl. 2: 692, 1891.

137 262 824 [252] The fruit of this subspecies, commonly known as the plantain, is usually cooked before eating. The Tongan name for this subspecies is *hopa*. The following varieties are recognized by the Tongans.

Fetau kula: fruit is round.
Fetau ulu'ikuma.
Lehia: bunch bears three or four hands of very large fruits.
Maholi hina.
Maholi 'uli.
Misipeka: small bunches of red fruits.
Pikipiki hina: fruit is small, white, the flesh firm.
Puko: small bunches of fruit nearly as large as the *lehia* variety.
Putalinga kula: stem is large, red, the bunches large, the fruit the size of those of the *puko* variety.
Putalinga puku.
Tateau.
Tokoni vai: large bunches of hard-fleshed fruit.
Tu'utu'ukautala.
Uhotaha.
Vaivai kako: fruit is medium-sized, long, round, curved.
Vaivai puki.

Musa paradisiaca Linnaeus subspecies **sapientum** (Linnaeus) O. Kuntze. Rev. Gen. Pl. 2: 692, 1891.

[252] The fruit of this subspecies, one of the bananas of commerce, is generally eaten raw. The following varieties are recognized by the Tongans.

Mahimahi: stem is short to medium, the bunches and fruit small.
Mamae: leaves are purplish, the fruit white and short.
Pata lahelahe: stem is medium tall, the fruit green with whitish bloom.
Pata tonga: stem is medium tall, the fruit green, somewhat ribbed, larger than variety *pata lahelahe.*
Siaine fisi: stem is tall, with large bunches of large fruits.
Siaine ha'amoa: stem is medium tall, the fruits and bunches large.
Siaine initia: stem is tall and red, with large clusters of red fruits.
Siaine tonga: stem is short, with short clusters of short fruits.

[1] /Belamcanda chinensis (Linnaeus) de Candolle -- Analyst/

It is probable that some of the above varieties are incorrectly placed as to 137
subspecies, as it was not possible to determine their exact relationship. So far 262
as I know, no wild species of *Musa* occur in Tonga. Plantains and bananas 824
are grown extensively throughout the group and are an important item in the
diet of the Tongans. A comparatively large number of bunches are shipped [439]
annually to the New Zealand markets.

FAMILY ZINGIBERACEAE

Genus **Zingiber** Adanson

Zingiber zerumbet (Linnaeus) J. E. Smith, Exot. Bot. **2**: 103, pl. 112, 1804.

Herbaceous plant with pubescent, leafy branches rising to about 1 m. tall from a thickened, fleshy rhizome. Leaves alternate, distichous, entire, oblong-elliptic or lanceolate, acuminate, clasping the stem at the base, up to about 30 cm. long and 5 cm. wide, pubescent beneath. Flowers white or pale yellow, in a large, bracteate, cone-like spike at top of a leafless scape up to about 30 cm. tall, bracts rounded, overlapping, becoming red.

Tongatapu: in a low wet area near Nualei, Mar. 9, 1953, *Yuncker 15221.*

'Eua: in thicket at margin of forest near summit of central part of eastern ridge, Mar. 24, 1953, *Yuncker 15455.*

Vava'u: *Crosby.*

Tafahi: at summit of Piu 'o Tafahi, Dec. 11, 1951, *Hürlimann 459.*

Niuatoputapu: on southward slope of mountain ridge opposite Vaipoa, Dec. 25, 1951, *Hürlimann 636.*

Frequent in thickets throughout the group. An Asiatic species now widely distributed in warm countries.

Tongan name: *angoango.*

The rhizome is used in preparing medicines. [278]
[824]

Genus **Hedychium** Koenig

Hedychium coronarium Koenig, Retz. Observ. Bot. **3**: 73, 1783.

Erect herb, stems up to 1 m. tall from a stout rootstock. Leaves distichous, oblong-lanceolate to lanceolate, acuminate, up to 50 cm. more long and 10 cm. wide, petiole short clasping stem with an elongated sheathlike portion. Flowers very fragrant, white turning yellow, perianth tube slender, up to 6 or 8 cm. long, in dense, terminal, bracteate spikes, bracts oblong to obovate or lanceolate, imbricate.

Tongatapu: in moist area along trail below Fatai village, Mar. 10, 1953, *Yuncker 15263.*

'Eua: in Pangai village, Mar. 25, 1953, *Yuncker 15488.*

Common in villages as an ornamental and occasionally as an escape. An [247]
Indian species now widely distributed in warm countries as an ornamental. [824]

Tongan name: *tevunga.*

The aromatic parts of this plant are used to scent oil. [303]
[824]

up to 20-25 cm. long, finely and closely pinnately nerved, petiole winged, clasping. Flowers white, about 2 cm. long, in loose, terminal, few-flowered clusters. 137

Tongatapu: in low wet area near Fatai village, Mar. 10, 1953, *Yuncker 15259.*

'Eua: in thicket near Ha'aluma, Apr. 1, 1953, *Yuncker 15606.*

Found about villages, occasionally adventive. A tropical American species of pantropic distribution.

Tongan name: *misimisi koka'anga.*

The starchy rootstocks[1] are used in preparing a paste employed in the manufacture of bark cloth and sometimes eaten. [287] [262] [824]

FAMILY ORCHIDACEAE

Orchid identifications are by Charles Schweinfurth.

Genus **Habenaria** Willdenow

Habenaria sp.

Short, erect, leafy, glabrous herb. Leaves oblong-lanceolate, acuminate, sheathing stem at base, up to 15 cm. long and 1-1.5 cm. wide, parallel-nerved, with midrib more prominent than lateral nerves. Flowers several, sessile or subsessile, in a terminal spicate inflorescence; capsule about 8 mm. long.

'Eua: in moist forest floor humus, near center of island, Mar. 21, 1953, *Yuncker 15404.* This specimen is poor and specific determination is not possible.

Infrequent.

Genus **Spiranthes** L. C. Richard

Spiranthes sinensis (Persoon) Ames, Orchidaceae 2: 53, 1908.

Erect, glabrous, terrestrial, slender herb, up to 30 m. or more tall. Leaves grasslike, up to 15 cm. or more long and 4-5 mm. wide, acuminate, clasping stem at base, parallel-nerved. Flowers 3-4 mm. long, commonly rose-colored, numerous, in a terminal, bracteate, spikelike spiral raceme.

Lifuka: in shady thicket near southern end of island, Apr. 28, 1953, *Yuncker 15775.*

Infrequent. Southern and eastern Asia, Malaya, Australia, New Zealand, and Polynesia.

Genus **Corymborchis** Thouars

Corymborchis veratrifolia (Reinwardt) Blume, Fl. Jav. Orch., 105, pls. 42E, 43, fig. 1, 1858.

Rather coarse, erect, terrestrial herb, up to 1 m. or more tall. Leaves broadly or narrowly elliptic, acuminate, with narrowed base clasping stem, up to 30 cm. or more long and 8 to 11 cm. wide, parallel-nerved, six to eight of the nerves being prominent, intermediate nerves very slender. Flowers 1.5-3 cm. long, pedicellate, numerous, in loose, axillary panicles up to 15 cm. or more wide.

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[1] /Maranta arundinacea Linnaeus -- Analyst/

76: Yuncker N-4,5 (1953) 1959 OU9 Tonga OU9

137 or, in some varieties, entire or shallowly divided with two or four short, triangular lobes, petioles short. Male flowers in large, dense, yellow, club-shaped, spikelike clusters, female flowers in globose to oval, headlike clusters which develop into round or oval fruits 15 cm. or more thick.

Frequent in plantations and about dwellings throughout Tonga. A Malaysian species now cultivated throughout the Pacific islands area.

Tongan name: *mei.*

137 262 824 The cooked fruit is an important item in the diet of the Tongans, who distinguish the following varieties:

Aveloloa: leaf is of medium size, the fruit oval and many-seeded.
Avenonou: fruit is smaller than that of *aveloloa.*
Kea kulufau: fruit is very large and round.
Kea ma'ama'a: fruit is oval, prickly or scabrous.
Lautolo: fruit is of medium size, round; leaves deeply pinnately lobed.
Ma'ofala: fruit is very small, oval.
Maopo: fruit is large, oval, smooth; leaves toothed.
Puou: leaves are lobed, the fruit medium-sized, round.
Vahivahi: leaves are rather deeply lobed, the fruit medium-sized, round.

137 This species has more frequently been known as *Artocarpus incisa* (Thunberg) Linnaeus f. or *A. communis* Forster. For a comment on the status of Parkinson's original description of this and other questionably proposed species, see Merrill (Chron. Bot. **14**: 359 ff., 1954).

Artocarpus integra (Thunberg) Merrill, Interpret. Herb. Amboin., 190. 1917.

Tree, up to 12-15 m. tall. Leaves alternate, elliptic-oblong to obovate, short-acuminate, base acute, entire or sometimes three-lobed, up to 15 cm. or more long. Male flowers in terminal or axillary spikelike clusters, up to 8 cm. long and 2.5 cm. in diameter, female flowers in globose or oblong heads borne on trunk or older branches; fruit green, oblong, up to 50 cm. or more long.

Vava'u: *Crosby.*

Occasional. An Asiatic species now widely distributed in warm countries. *A. integrifolia* L. in Burkill's list.

Tongan name: *mei.*

[262] [824] The fruit is used as food.

Genus **Antiaris** Leschenault

Antiaris bennettii Seemann, Bonplandia **10**: 3, pl. 7, 1862.

Medium-sized tree, branchlets and petioles pubescent glabrescent. Leaves ovate-oblong or elliptic-oblong, acuminate, base inequilaterally subcordate, glabrous, pinnately nerved, lateral nerves submarginally loop-connected, petiole comparatively short. Flowers monoecious, male congested in disklike, short-pedunculate receptacles, in axillary fascicles, female solitary, fruit drupaceous, ovate, densely hairy.

Tongatapu: *Home.*

Also in Fiji.

FAMILY CHENOPODIACEAE

The beet (*Beta vulgaris* Linnaeus), chard (*Beta vulgaris* var. *cicla* Linnaeus), and spinach (*Spinacia oleracea* Linnaeus) are occasionally cultivated in plantations as vegetable crops. 137 [244]

FAMILY AMARANTHACEAE

Genus Amaranthus Linnaeus

Amaranthus blitum Linnaeus, Sp. Pl., 990, 1753.

Low, spreading, nearly prostrate herb. Leaves small, alternate, obovate, obtuse, base acute, on slender petioles. Flowers very small, in few-flowered, axillary, subsessile clusters.

'Eua: weed beside trail near center of island, Apr. 5, 1953, *Yuncker 15643.* A depauperate specimen but seemingly this species.

Not common in Tonga.

Amaranthus paniculatus Linnaeus, Sp. Pl., ed. 2, 1406, 1763.

More or less pubescent herb. Leaves oblong-ovate to lanceolate. Flowers very small, in numerous, long, slender, ascending, dark red or yellowish spikes arranged in large, showy, paniculate clusters.

Vava'u: *Barclay.*

Widely cultivated as an ornamental. Occasional as a weed. [247]

Amaranthus viridis Linnaeus, Sp. Pl., ed. 2, 1405, 1763.

Coarse, glabrous, erect herb, up to about 1 m. tall. Leaves alternate, ovate to ovate-lanceolate, obtusish, base acute, long-petiolate. Flowers minute, greenish, sessile, in axillary clusters, in long, densely flowered, terminal and axillary spikes; fruit a membranous utricle.

Tongatapu: weed in banana plantation, Nualei, Nov. 1, 1951, *Hürlimann 100;* dooryard weed, Fu'amotu village, Mar. 4, 1953, *Yuncker 15164.*

'Eua: plantation weed on western side of island, Mar. 25, 1953, *Yuncker 15470.*

Tafahi: roadside weed between township of Tafahi and Faihavanui, Dec. 15, 1951, *Hürlimann 541.*

A weed of plantations and waste areas throughout Tonga. Widespread in warm climates.

Tongan names: *longolongo'uha, tupu'a.*

The young leaves are sometimes eaten as a vegetable. [262]

Hemsley lists *Amaranthus caudatus* Linnaeus as collected by Cook on Tongatapu. This is an ornamental species, and there is some question as to whether it was in Tonga at the time of Cook's voyages. [824]

FAMILY PORTULACACEAE

137

Genus Portulaca Linnaeus

Portulaca oleracea Linnaeus, Sp. Pl., 445, 1753.

Fleshy, glabrous, prostrate, spreading herb. Leaves obovate or oblong-cuneate, entire, fleshy, up to about 2.5 cm. long. Flowers four to six-parted, sessile, terminal, yellow, withering early; capsule membranous, dehiscent by a lid, the seeds numerous, small, black, slightly roughened.

Tongatapu: *U.S. Expl. Exped.;* weed in plantation near Nualei, Oct. 29, 1951, *Hürlimann 43;* on sand near lagoon, Hufangalupe, vicinity of Vaini village, Feb. 26, 1953, *Yuncker 15051.*

'Eua: in plantation between Pangai and Fuai, Mar. 25, 1953, *Yuncker 15465.*

Vava'u: *Crosby.*

Common throughout Tonga as a plantation and waste-area weed. A native of Europe now widely distributed as a weed.

Tongan name: *tamole.*

The plants are sometimes cooked and eaten as a vegetable.

262
824

Portulaca quadrifida Linnaeus, Mantissa 1: 73, 1767.

Prostrate, fleshy, much-branched herb, stems slender, creeping and rooting at nodes, nodes pilose. Leaves opposite, elliptic-ovate or ovate, up to 6 mm. long and 3 mm. wide, acute or obtuse, acutish at base, petiole short. Flowers solitary, sessile, terminal, surrounded with long hairs and a four-parted involucre, corolla yellow; capsule circumscissile, the seeds gray.

Tongatapu: *U.S. Expl. Exped.*

Vava'u: *Barclay; Crosby.*

Occasional as a waste-area weed. A native of the Old World tropics now widespread as a weed.

Tongan name: *ngingie.*

Portulaca samoensis von Pollenitz, Repert. Sp. Nov. 33: 163, 1933.

Much-branched, prostrate, fleshy herb, stems slender with tufts of long white hairs at nodes. Leaves elliptic, obtuse or acutish, base acute or obtusish, 5-10 mm. long and 2 mm. wide, glabrous, petiole about 1 mm. long.

Tongatapu: on rocks near sea, near Ha'akame village, Mar. 12, 1953, *Yuncker 15282;* on thin soil on limestone rocks near the sea, Blow Hole area below Houma village, June 1, 1953, *Yuncker 16222.* Occasional on rocks near the shore.

Also in Samoa, Fiji, and Micronesia.

Tongan name: *kihikihi ngingie.*

137 'Eua: *Lister;* margin of forest at summit of eastern ridge, Mar. 30, 1953. *Yuncker 15561;* near base of eastern ridge below Fuai, Nov. 8, 1951, *Hürlimann 158, 162.*

Abundant in Fiji.

FAMILY LAURACEAE

Genus **Persea** Gaertner

Persea americana (Linnaeus) Miller, Gard. Dict., ed. 8, no. 2, 1768.

Medium to large tree. Leaves alternate, entire, mostly 10 cm. or more long, elliptic, oval, or sometimes obovate, pubescent beneath, somewhat coriaceous, acute, nerves prominent, petioles up to 5 cm. long. Flowers small, greenish, short-pedicellate, in terminal, paniculate clusters; drupe fleshy, 5 cm. or usually more long, subglobose to pear-shaped, seed single, large, round.

Introduced and occasional in villages. A tropical American species now pantropic in distribution.

Tongan name: *'avoka.*

[262] [824] The fruit is used as food.

Genus **Litsea** Lamarck

Litsea mellifera A. C. Smith, Jour. Arnold Arboretum 32: 54, 1951.

Tree, up to 35 m. tall. Leaves alternate, broadly elliptical or elliptic-ovate, obtusely pointed, base abruptly acute, 10-18 cm. long and 6-14 cm. wide, light green above, whitened beneath, pinnately nerved, nerves prominent, tomentulose beneath, petioles up to 4 cm. long. Flowers small, unisexual, in umbellate-racemose, axillary clusters; fruit ellipsoidal, up to 3 cm. long, in persistent cupulate calyx.

'Eua: in margin of forest near Reichelmann's Fuai plantation near center of island, alt. about 240 m., Mar. 22, 1953, *Yuncker 15431.*

Tongan name: *mamea.*

This interesting collection, with young staminate inflorescences, is very similar to the Fijian material of *L. mellifera;* no basis for even infraspecific separation can be found from the specimens at hand. Apparently this is the first record of *Litsea* in Tonga, a very satisfying discovery since the genus occurs in Fiji (see A. C. Smith, op. cit., pp. 45-57) and Samoa. *L. mellifera* is known from several of the Fijian islands and occurs there with considerable frequency at altitudes from sea level to about 850 m.; it is less common, however, than *L. pickeringii* (Seemann) Drake, a species more to be expected in Tonga because it occurs on the islands of Lau (A. C. Smith).

Genus **Cryptocarya** R. Brown

Cryptocarya glaucescens R. Brown var. **pacifica** Burkill, Linn. Soc. Bot., Jour. 35: 52, 1901.

137 *flora*, the new species differs in the somewhat more prominent venation of its leaflets and in its more compact inflorescences, with the rachis and pedicels at anthesis being only about half as long (these parts in Gray's species being about 3 cm. and 2-2.5 cm. long respectively). The sepals of our species are slightly the shorter, as are the petals, filaments, and style (in *M. grandiflora* the petals are 12-19 × 3-4 mm., the filaments are 15-25 mm. long, and the style is 9-10 mm. long). Although in foliage, *M. amicorum* is essentially similar to *M. brevipes*, the venation of the leaflets is finer and more obviously prominulous beneath. The new species is further distinguished by having its bud-enclosing bracts sericeous-puberulent rather than glabrous dorsally, in the longer rachis of its inflorescence (about 1 cm. long in *M. brevipes*), in its shorter style, and in the larger bracts, both median and lateral, subtending the flowers.

Genus **Tamarindus** Linnaeus

Tamarindus indica Linnaeus, Sp. Pl., 34, 1753.

Medium to large, thickly branched, round-topped tree. Leaves alternate, even-pinnate, leaflets up to 36 or more on each pinna, opposite, oblong, obtuse or slightly emarginate, base obliquely inequilateral, about 2 cm. long and 5 mm. wide, sessile. Flowers yellow, striped with red, in axillary or terminal, racemose clusters; pods up to 12 cm. or more long, curved, seeds several, embedded in pulpy tissue.

Tongatapu: margin of coconut plantation below Nualei village, Mar. 9, 1953, *Yuncker 15237*.

Lifuka: northern margin of Pangai village, May 11, 1953, *Yuncker 15987*.

Vava'u: *Crosby*.

Occasional in villages. An African species now of wide distribution in tropical countries.

Tongan name: *tamaline*.

262
824
The pulpy part of the pod is edible.

Genus **Intsia** Thouars

Intsia bijuga (Colebrooke) O. Kuntze, Rev. Gen. Pl. 1: 192, 1891.

Rather large tree. Leaves alternate, even-pinnate, leaflets four, oval-ovate, obtuse or emarginate, base oblique, up to 8 or 10 cm. long and 5-7 cm. wide, glabrous, finely pinnately nerved, petiolules about 5 mm. long. Flowers about 1 cm. long, calyx puberulent, only one petal developing, petal pinkish, rounded; pod up to 20 cm. long and 6 cm. wide, coriaceous, seeds orbicular.

Kao: margin of forest near abandoned plantation, alt. about 30 m., May 6, 1953, *Yuncker 15957*.

Rare in Tonga. From Madagascar through Malaya and from the Philippines and the Caroline Islands eastward to Fiji and Samoa.

Tongan name: *fehi*.

313
824
322
The wood is very hard and is used in handicraft work.

137 'Eua: *Lister;* in open woods along trail between Pangai village and Fuai, Mar. 25, 1953, *Yuncker 15484.*

Nomuka: along road encircling island, Apr. 30, 1953, *Yuncker 15830.*

Lifuka: side of road north of Pangai village, Apr. 25, 1953, *Yuncker 15740.*

Vava'u: *Crosby;* in clearing near coastal cliff along eastern side of island, below Houma village, May 22, 1953, *Yuncker 16128.*

Tafahi: beside road between township of Tafahi and landing place Faihavanui, Dec. 15, 1951, *Hürlimann 566.*

Niuatoputapu: on main mountain ridge above Vaipoa, to the east, Dec. 5, 1951, *Hürlimann 357;* plain southeast of Falehau, Dec. 7, 1951, *Hürlimann 380.*

Frequent throughout Tonga. Malaysia and Polynesia.

Tongan name: *ifi;* varietal names, *ifi mea, ifi 'ui, monosivai.*

[313] [412] [262] [824] The timber is strong and is used for general construction work, tool handles, tapa pounders, wooden drums, banana shooks, and so on. The fruit is edible.[1]

For a discussion of the reasons for using *I. edulis* as the correct name of this species rather than *I. fagiferus* (Parkinson) Fosberg, see Merrill (Chron. Bot. 14: 347, 1954).

Genus **Abrus** Linnaeus

Abrus precatorius Linnaeus, Syst., ed. 12, 472, 1767.

Subwoody, twining vine with slender, glabrous branches with long internodes. Leaves even-pinnate, alternate, leaflets subsessile, commonly 20 to 30, oblong, obtuse and slightly emarginate, base obtuse or cordulate, about 2 cm. long and 6 mm. wide. Flowers small, red or white, several, on very short, swollen, knoblike, terminal or axillary branches; pods several-seeded, seeds handsome, bright red with base black, shiny.

Tongatapu: *U.S. Expl. Exped.*

Lifuka: in seaside thicket toward northern end of island, Apr. 25, 1953, *Yuncker 15724.*

Kao: in thicket, margin of abandoned plantation, May 6, 1953, *Yuncker 15951.*

Vava'u: *Crosby;* in thicket near sea below Houma village, May 22, 1953, *Yuncker 16125.*

Niuafo'ou: in thicket in an interlaval "island" on way to upper rim of main central crater, May 16, 1953, *Yuncker 16002.*

Niuatoputapu: on edge of mountain range above Vaipoa, Dec. 5, 1951, *Hürlimann 353.*

Frequent in thickets throughout Tonga. A tropical Asiatic species now pantropic in distribution.

Tongan names: *matamoho, moho.*

[301] [824] The seeds are used for necklaces and other ornamentation.

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[1] /Inocarpus edulis -- Analyst/

137 Cultivated[1] throughout the group for its edible roots. A tropical American
[244] species now of pantropic cultivation.

[824] Tongan name: *manioke*. The following varieties are recognized:

[262]
Manioke falaoa: stem is pale green, the tuber white.

Manioke hina: stem and leaves are pale green; the skin of the tuber is brown without, pink within.

Manioke koka'anga: stem is dark red, the leaves dark violet, the skin of the tuber is red; the tuber is bitter unless properly prepared and is used to prepare an adhesive paste.

Manioke leka hina: stem and leaves are pale green, the tuber white.

Manioke leka kula: stem is light brown, the petiole red, and the skin of the tuber dark red.

Genus **Codiaeum** Jussieu

Codiaeum variegatum (Linnaeus) Blume, Bijdr. Fl. Java, 606, 1825.

Densely branched, glabrous shrub. Leaves alternate, varying greatly in shape and size, commonly entire, sometimes interrupted or twisted, pinnately nerved, mostly acuminate, variegated green, red, pink, yellow, and white. Flowers small, monoecious, in axillary, racemose clusters.

'Eua: *Lister.*

Tafahi: in cemetery beneath the township of Tafahi, alt. 30 m., Dec. 17, 1951, *Hürlimann 594.*

[245] Cultivated as an ornamental throughout Tonga. Pantropic.
[824]

Genus **Croton** Linnaeus

Croton storckii Seemann, Bonplandia 10: 297, 1862.

Shrub with sparse, stellate pubescence glabrescent. Leaves alternate, ovate, short-acuminate, base rounded, bi-glandular, up to 10 cm. long and 5 cm. wide, the petiole up to 2.5 cm. long. Flowers small, in terminal, racemose clusters up to 5 cm. long.

Vava'u: *Crosby 150.*

Also in Fiji.

C. microtiglium Burkill (Linn. Soc. Bot., Jour. 35: 54, 1901). See also the note by A. C. Smith (B. P. Bishop Mus., Bull. 141: 83, 1936).

Genus **Excoecaria** Linnaeus

Excoecaria agallocha Linnaeus, Syst., ed. 10, 1288, 1759.

Tree up to 10 or 12 m. tall, the latex white, adhesive, irritating. Leaves alternate, glabrous, oval or oval-obovate, acutish or rounded and retuse, base obtuse to acutish, bi-glandular, up to 8 cm. or more long and 6-7 cm. wide, pinnately nerved, lateral nerves slender and inconspicuous, petiole up to 2 cm. long. Flowers monoecious, small, male flowers in many-flowered, axillary spikes up to 5 cm. or more long, female flowers in axillary racemes up to 3 or 4 cm. long; capsules subglobose, about 5 mm. in diameter.

Tongatapu: *Cook; Home;* in thicket, Sopu, Feb. 25, 1953, *Yuncker 15025;* in swampy area near Navutoka village, Feb. 27, 1953, *Yuncker 15072;* near Fatai toward sea, Oct. 30, 1951, *Hürlimann 62.*

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[1] /Manihot esculenta -- Analyst/

Genus **Securinega** Jussieu

137 **Securinega samoana** Croizat, B. P. Bishop Mus., Bull. **184**: 45, 1945.

Small to medium-sized tree up to 10 m. tall. Leaves alternate, elliptic or elliptic-subobovate, glabrous, acuminate, base subacute, pinnately nerved, nerves six to eight on each side, up to 12 cm. or more long and 6 cm. wide, on petioles scarcely 1 cm. long. Flowers white, very small, numerous, on pedicels about 5 mm. long, in axillary clusters; fruit black.

Tafahi: in forest along road between township of Tafahi and landing place at Faihavanui, alt. 100 m., Dec. 15, 1951, *Hürlimann 562.*

Niuatoputapu: in forest, slope of ridge above Hihifo, alt. 60 m., Dec. 5, 1951, *Hürlimann 339.*

Known in Tonga from only the northernmost islands. Samoa.

Tongan name: *poumuli.*

[824] [342] [313] The timber is very hard and is used for various purposes, including house construction.

FAMILY ANACARDIACEAE

Genus **Mangifera** Linnaeus

Mangifera indica Linnaeus, Sp. Pl., 200, 1753.

Large, dense, round-topped tree. Leaves alternate, simple, oblong-lanceolate, acute, coriaceous and somewhat shiny, pinnately nerved, midrib prominent, young leaves often reddish, petioles up to 5 cm. or more long. Flowers small, yellowish white, in large, terminal panicles; fruit a fleshy, edible drupe with a large, compressed, fibrous stone.

Tongatapu: roadside south of Ma'ofanga, Nov. 23, 1951, *Hürlimann 320.*

Introduced for its fruit and common about villages throughout Tonga, this tree grows spontaneously in thickets, along roadsides, and so forth. A tropical Asiatic species now cultivated in tropical regions throughout the world.

137 Tongan name: *mango*. The following varieties are recognized:

262 *Mango kaimata:* fruit is sweet and edible before it is fully ripened. Various forms of this variety are based on the size of the fruit.

Mango kalasini: fruit has an odor resembling kerosene.

Mango lesi: fruit is of medium size and of the best quality. Three or four forms of this variety are recognized.

Mango nui: fruit is very large.

Genus **Spondias** Linnaeus

137 **Spondias dulcis** Parkinson, Jour. Voy. Endeavour, 39, 1773.

Medium to large, stiff-branched tree, up to 15 m. or more tall. Leaves alternate, odd-pinnate, leaflets commonly 11 to 15, oval-lanceolate or oblong, acuminate, base acute, remotely finely toothed, up to 8 cm. or more long and 2.5 cm. wide. Flowers small, numerous, whitish, in large, paniculate clusters; the fruit yellow, oval-obovate, up to 7 cm. or more long, fleshy, edible.

76: Yuncker N-4,5 (1953) 1959 OU9 Tonga OU9

137 **Tongatapu**: *Forster;* forest near village of Niutoua, Mar. 2, 1953, *Yuncker 15168.*

'Eua: open forest along trail between Pangai village and Fuai, Mar. 25, 1953, *Yuncker 15486.*

Vava'u: *Crosby.*

Niuatoputapu: near township of Vaipoa, on road to Falehau, alt. 5 m., Dec. 7, 1951, *Hürlimann 377.*

Occasional throughout Tonga. Malaya, New Guinea, and Polynesia.

Tongan name: *tava.*

Varieties are recognized under the following names: *tava kula, tava moli, tava toua.*

[924] [313] [342] [262] [278] The timber[1] is used in house construction, for tapa pounders, for banana shooks, and so on; the fruit is sometimes eaten; and the bark is used in medicine for "stomach troubles."

Genus **Guioa** Cavanilles

Guioa lentiscifolia Cavanilles, Icones Descr. Pl. 4: 50, pl. 373, 1797.

Small tree 3-5.5 m. tall, young twigs, leaves, and so forth puberulent. Leaves alternate, pinnately compound, leaflets varying in number, apex rounded, obtuse to acute, base narrowed and decurrent on very short petiolule, up to 6 cm. long and 3 cm. wide but mostly smaller, pinnately nerved, midrib prominent, lateral nerves slender, submarginally loop-connected. Flowers small, white, in terminal and axillary, paniculate clusters; fruit strongly lobed, up to 2 cm. wide.

'Eua: seaward margin of forest on terrace above village of Houma on northwestern side of island, alt. about 160 m., Mar. 26, 1953, *Yuncker 15503;* thicket, edge of forest above Fuai plantation, near center of island, Mar. 29, 1953, *Yuncker 15545.*

Vava'u: near upper rim of seaside cliff above Ha'alaufuli on northeastern side of island, alt. about 120 m., May 21, 1953, *Yuncker 16106.*

Tongan name: *'olive.*

The cited specimens certainly appear to represent the endemic described and [113] illustrated by Cavanilles and further briefly discussed by Radlkofer (Sitzber. Math.-Phys. Kl. Akad. Wiss. München 9: 608, 1879; Pflanzenr. 98 [IV. 165]: 1158, 1933). It may be noted that Radlkofer defines *Guioa* as having squamate petals, but Cavanilles gives no indication of this character in his description or plate, and the material now dissected (*Yuncker 15503*) shows the petals to be esquamate. As *G. lentiscifolia* is the genotype, a revision of Radlkofer's circumscription is a matter for the future monographer to consider. Actually, on the basis of other characters, the many species now referred to *Guioa* seem correctly placed, but less dependence upon petal characters may [113] be indicated. Possibly this is the species listed by Hemsley (Linn. Soc. Bot. Jour. 30: 172, 1894) and Burkill (op. cit. 35: 33, 1901) as *Guioa glauca*

[1] /Pometia pinnata -- Analyst/

'Eua: *Lister;* deep ravine northeast of Ohonua village, Apr. 2, 1953, *Yuncker 15629.* 137

Lifuka: near sea north of Pangai village, Apr. 25, 1953, *Yuncker 15746.*

Vava'u: *Crosby.*

Tafahi: coastal forest, near Hou, alt. 5 m., Dec. 17, 1951, *Hürlimann 586.*

Frequent near the shore throughout Tonga. Pantropic.

Tongan name: *milo.*

The leaves and fruit[1] are used in preparing medicines. The timber takes a good polish, is durable under water, and is used in construction and handicraft work. [824] [278] [313]

Genus **Gossypium** Linnaeus

Gossypium brasiliense Macfayden, Fl. Jamaica 1: 72, 1837.

Semi-shrubby, branching plant, up to 1.5 m. or more tall. Leaves alternate, round-ovate in outline, three- to five-lobed, lobes entire, on long petioles. Involucral bracts cordate, laciniate, acuminate, seeds numerous, covered with long, white fibers.

Vava'u: *Crosby.*

Introduced and occasional in villages. Pantropic.

Tongan name: *vavae.*

Hibiscus manihot Linnaeus, called *pele* by the Tongans, is cultivated for its young growth, which is used as a green vegetable. [824] [244] [262]

FAMILY BOMBACACEAE

Genus **Ceiba** Medikus

Ceiba pentandra (Linnaeus) Gaertner, Fruct. et Semin. Pl. **2**: 244, pl. 133, fig. 1, 1791.

Medium to large, glabrous, soft-wooded tree with smooth or short-spiny bark and whorled, spreading branches. Leaves palmately compound, leaflets five to nine, elliptic to oblanceolate, entire, of various sizes, acuminate, petioles long. Flowers white or pinkish, petals pubescent, up to 2.5 cm. long; capsules up to 15 cm. long, seeds numerous, silky-hairy.

Introduced and now occasional in villages and along roadsides throughout the group.

The silky seed fibers are used as a filling for pillows and cushions. Probably of tropical American origin; now pantropic. [824]

Tongan name: *vavae.*

FAMILY STERCULIACEAE

Genus **Melochia** Linnaeus

Melochia aristata A. Gray, U.S. Expl. Exped., Bot. **1**: 193, 1854.

Small tree, up to 4 m. or more tall. Leaves alternate, ovate, acute, base rounded, obtuse or abruptly acute, up to 12 cm. or more long and 8 cm. wide, palmately five- to seven-nerved, midrib branched upward, crenately toothed, petiole slender, up to 8 cm. or more

[1] /Thespesia populnea -- Analyst/

137 **polygamous-dioecious, white or cream-colored, fragrant, female flowers sessile, axillary, male flowers smaller, in loose, paniculate clusters, on long, axillary peduncles; fruit green to yellow, of various shapes, up to 20 cm. or more long, flesh red orange, central cavity lined with small, round, black seeds.**

[245 824] Commonly cultivated[1] in villages and plantations throughout the group and frequent as an escape. A tropical American plant now cultivated as a food plant in most warm countries.

Tongan name: *lesi*. The following varieties are distinguished:

[262] *Lesi 'initia:* there are two forms of this variety, one with long fruit, the other with short, oval fruit.

Lesi meleni: the flesh is pink and not as sweet as the other varieties.

Lesi tonga: there are two forms of this variety, one with long fruit, the other with short, oval fruit.

FAMILY LYTHRACEAE

Genus **Pemphis** Forster

Pemphis acidula J. R. and G. Forster, Char. Gen. Pl., 68, pl. 34, 1776.

Low, sprawling, silky-pubescent shrub. Leaves opposite, lanceolate or elliptic-spatulate, acutish, up to about 2.5 cm. long and 6 mm. wide, entire, subsessile, crowded. Flowers solitary, axillary, about 15 mm. wide, petals white, membranous; fruit turbinate, about 6 mm. long.

Tongatapu: on coral rocks near shore, near Niutoua village, Mar. 2, 1953, *Yuncker 15132.*

'Eua: *Lister;* on coral rocks along strand at Lokupo, Mar. 27, 1953, *Yuncker 15524.*

Lifuka: scrambling over rocks along shore, Apr. 27, 1953, *Yuncker 15766.*

Vava'u: *Crosby; Harvey.*

Niuatoputapu: toward southeast coast near Falehau, Dec. 7, 1951, *Hürlimann 386.*

Frequent on rocks and cliffs along the shore throughout Tonga. From eastern Africa and tropical Asia eastward to Polynesia.

Tongan name: *ngingie.*

Genus **Lagerstroemia** Linnaeus

Lagerstroemia indica Linnaeus, Syst., ed. 10, 1076, 1759.

Shrub up to 3 m. or more tall, twigs somewhat quadrangular. Leaves alternate, elliptic or elliptic-subobovate, obtuse or acute, up to about 5 cm. long, subsessile. Flowers about 3 cm. wide, petals suborbicular, clawed, pink to lavender, in terminal or axillary paniculate clusters.

[245 824] Introduced ornamental which is occasional in villages. A Chinese species now widely cultivated in warm countries.

[1] /Carica papaya -- Analyst/

Genus **Bruguiera** Lamarck

137 **Bruguiera conjugata** (Linnaeus) Merrill, Philippine Jour. Sci. **9C**: 118, 1914.

Small tree similar in habit to *Rhizophora*, up to 4 m. or more tall. Leaves alternate, elliptic, acuminate, base decurrent along petiole, up to 12 cm. or more long and 4-5 cm. wide, coriaceous, somewhat glossy, finely pinnately nerved, petiole up to 4 cm. or more long. Flowers greenish yellow, solitary, axillary, about 3 cm. long, calyx lobes very narrowly lanceolate, acute, usually 10, up to 1.5 cm. long: fruit included in calyx tube, seed, germinating on tree and forming an elongated radicle.

Nomuka: along shore of central lake, Apr. 30, 1953, *Yuncker 15828*.

Vava'u: *Crosby*.

Occasional near shore but less frequent than *Rhizophora*. From tropical Asia through Malaya to Polynesia.

B. rheedii Blume in Hemsley's list and *B. gymnorhiza* Lam. in Burkill's list.

Tongan names: *tongo, tongo ta'ane*.

[824] The hard and durable wood is used in many ways, and an extract of the
[313] flowers furnishes a dye.
[386]

FAMILY COMBRETACEAE

Genus **Terminalia** Linnaeus

Terminalia catappa Linnaeus, Mantissa **1**: 128, 1767.

Medium to large tree with whorled, horizontal branches. Leaves clustered toward ends of branches, obovate, obtuse or abruptly acute, base narrowing, narrowly and abruptly obtuse at petiole, entire, up to 25 cm. or more long and 15 cm. wide, pinnately nerved, petioles short and stout. Flowers small, greenish white, in axillary, spikelike clusters near ends of branches; fruit oval, flattened, two-edged, greenish to red, up to about 5 cm. long, flesh thin and edible.

Tongatapu: *U.S. Expl. Exped.*; in open forest near Nualei, Mar. 9, 1953, *Yuncker 15246*; in seaside thicket below Ha'akame village, Mar. 12, 1953, *Yuncker 15286*.

'Eua: in seaward forest on terrace above Houma village, Mar. 26, 1953, *Yuncker 15506*.

Lifuka: roadside near north end of island, Apr. 25, 1953, *Yuncker 15752*.

Tafahi: shore, northeast coast north of Fakafafa moe Tauloto, Dec. 17, 1951, *Hürlimann 601*.

Niuatoputapu: forest on plain southeast of Falehau, alt. 5 m., Dec. 7, 1951, *Hürlimann 385*.

Frequent throughout Tonga, commonly near the shore. From tropical Asia eastward to Polynesia; naturalized in America.

Tongan name: *telie*.

[824] The timber is used for construction purposes, canoes, banana shooks, and
[313] so forth; the leaves, for medicine; and the fruit, as food.
[396]
[278]
[262]

Genus **Quisqualis** Linnaeus

137 **Quisqualis indica** Linnaeus, Sp. Pl., ed. 2, 556, 1762.

[824] [245] A tropical Asiatic vine widely planted for ornamental purposes. Occasional about dwellings in Tonga.

[133]

FIGURE 12.—Sinkhole on central plateau of 'Eua island. Much of the "bush" is *Psidium guajava*.

FAMILY MYRTACEAE

Genus **Psidium** Linnaeus

Psidium guajava Linnaeus, Sp. Pl., 470, 1753 (fig. 12).

Shrub or small tree, up to 3 m. or more tall, young branches quadrangular, pubescent. Leaves simple, opposite, oval-elliptic or oblong, apex rounded, base obtuse or acutish, up to 12 cm. or more long and 6 cm. wide, rather thick, pubescent beneath, prominently pinnately nerved, petiole up to about 1 cm. long. Flowers about 2.5 cm. wide, axillary, corolla white: fruit size of a small lemon, yellow, flesh pink when ripe, fragrant, edible.

Tongatapu: in thicket along road near village of Niutoua, Mar. 2, 1953. *Yuncker 15112.*

Occasional to frequent throughout Tonga; rather large colonies grow on 'Eua. It appears to be spreading in Tonga and promises to become a pernicious weed. A tropical American species of relatively recent introduction.

Tongan name: *kuava.*

[824] [262] The fruit is used as food.

137 [113] Also in Fiji. For a discussion of this species see Lily M. Perry (Jour. Arnold Arboretum **31**: 363-364, 1950).

Syzygium clusiaefolium (A. Gray) C. Mueller, Walpers Ann. Bot. Syst. **4**: 839. 1857.

Tree, up to 8 m. or more tall. Leaves opposite, oval or oval-obovate, apex rounded, obtuse to short-acute, base acute to cuneate, up to 15 cm. long and 8 cm. wide, coriaceous, entire, pinnately nerved, lateral nerves numerous, very slender, joining with a submarginal nerve, petiole about 1 cm. long, canaliculate. Flowers small, numerous, in large, open, paniculate clusters, borne on trunk and larger branches; fruit ovoid, up to 1 cm. or more in diameter, dark purple, edible.

Tongatapu: swampy area between village of Navutoka and sea, Feb. 27, 1953, *Yuncker 15085*.

'Eua: in open forest near center of island, Mar. 19, 1953, *Yuncker 15386*.

Kao: in forest on rocky slope, May 6, 1953, *Yuncker 15907*.

Vava'u: *Crosby;* near upper rim of seaside cliff above Ha'alaufuli, May 21, 1953, *Yuncker 16108*.

Niuafo'ou: inner slope of main crater, facing large central lake, May 16, 1953, *Yuncker 16005*.

Rather frequent throughout the group. Also in Niue and Samoa.

Eugenia clusiaefolia A. Gr. in Hemsley's list, *fide* Burkill.

Syzygium corynocarpum (A. Gray) C. Mueller, Walpers, Ann. Bot. Syst. **4**: 839, 1857.

Shrub or small tree, up to 7 m. or more tall. Leaves opposite, elliptic or oblong-elliptic, bluntly acuminate, base acute, up to 14 or 15 cm. long and 5 cm. wide but mostly smaller, pinnately nerved, lateral nerves slender and submarginally loop-connected, paler on lower surface, petioles 5 mm. long, canaliculate. Flowers sessile or subsessile; fruit elongated, beaked.

Tongatapu: *Home;* in open forested area near village of Niutoua, Mar. 2, 1953, *Yuncker 15166*.

'Eua: in open forest along trail between Pangai village and Fuai, Mar. 25, 1953, *Yuncker 15469*.

Nomuka: in clearing near road encircling island, Apr. 30, 1953, *Yuncker 15833*.

Vava'u: *Crosby*.

Occasional throughout Tonga. Also in Fiji and Samoa.

Tongan name: *hehea*.

[824] [313] The timber is used for construction purposes; the fruit is eaten and used for leis; and the leaves and bark are used in medicines.

[262] [301] [278] **Syzygium cumini** (Linnaeus) Skeels, U.S. Dept. Agric., Bur. Pl. Ind., Bull. **248**: 25, 1912.

Shrub or medium to large tree. Leaves opposite, oblong to oval, obtuse or acute, 8-14 cm. long and 3-6 cm. wide, rather thick and shining, pinnately nerved. Flowers

137 shallowly canaliculate. Flowers large, red, on pedicels 1 cm. or less long, in lateral or terminal, racemose clusters: fruit obovoid, 7 cm. or more in diameter, fleshy, red, one-seeded, edible.

Tongatapu: *U.S. Expl. Exped.;* in open woods near village of Lavengatonga, Mar. 6, 1953, *Yuncker 15178;* in open woods near sea below village of Fatai, Mar. 10, 1953, *Yuncker 15265.*

'Eua: in open forest on sea-facing terrace along trail descending to Lokupo, Mar. 27, 1953, *Yuncker 15529.*

Nomuka: in clearing along road encircling island, Apr. 30, 1953, *Yuncker 15858.*

Lifuka: on limestone cliff along eastern side of island near middle, Apr. 27, 1953, *Yuncker 15772;* margin of plantation near north end of island, May 6, 1953, *Yuncker 15988.*

Vava'u: *Crosby.*

Frequent throughout Tonga. A native of Indo-Malaya, now widely grown in warm countries.

Tongan name: *fekika kai.*

[824] [313] [262] [278] The timber[1] is used for construction work; the fruit, as food; and the bark and leaves, in medicines.

Syzygium neurocalyx (A. Gray) Christophersen, B. P. Bishop Mus., Bull. 154: 27, 1938.

Shrub or small tree, up to about 4 m. tall. Leaves opposite, oval-oblong or subovate, obtuse, base rounded, truncate or cordulate, up to 18 cm. long and 8 cm. wide, pinnately nerved, lateral nerves submarginally loop-connected, paler beneath, petioles scarcely 5 mm. long, stout. Flowers large, sessile, solitary or in terminal and axillary, headlike clusters, calyx tube ribbed.

Tongatapu: in open forest below Nualei, Mar. 9, 1953, *Yuncker 15247.* This specimen is sterile and only tentatively referred to this species with which it agrees well in its vegetative characters.

Infrequent. Also in Fiji and Samoa.

Tongan name: *koli.*

[824] [301] The fruit is used in leis.

Syzygium richii (A. Gray) Merrill and Perry, Sargentia 1: 77, 1942.

Medium to large tree, up to 8 m. or more tall. Leaves opposite, oval or oval-subobovate, abruptly pointed, base rounded, cordulate, up to 25 cm. or more long and 14 cm. wide, coriaceous, pinnately nerved, lateral nerves submarginally loop-connected. Flowers large, in large, branching, axillary clusters, petals four, white, early deciduous, stamens many, long, yellow; fruit ovoid, red.

Tongatapu: in forest near the sea below the village of Niutoua, Mar. 2, 1953, *Yuncker 15140;* in seaside thicket, Blow Hole area near Houma village, June 5, 1953, *Yuncker 16246.*

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[1] /Syzygium malaccense -- Analyst/

Of this family[1] carrots (*Daucus carota* L. var. *sativa* DC.), parsnips 137
(*Pastinaca sativa* L.), and celery (*Apium graveolens* L. var. *dulce* DC.) are 262
cultivated to some extent as food crops. 829
244

FAMILY MYRSINACEAE

Genus **Maesa** Forskål

Maesa tongensis Mez, in Engler, Pflanzenr. 9 (IV. 236): 43, 1902.

Shrub or small tree, branches sometimes somewhat scandent, up to 3 m. or more tall. Leaves alternate, elliptic-obovate, apex rounded, base obtuse to acute, up to 12 cm. long and 8 cm. wide, margin entire or uneven, pinnately nerved, nerves, petioles and twigs reddish, petiole up to 2-3 cm. long. Flowers small, in axillary, racemose or paniculate clusters; fruit subglobose, pointed, about 3 mm. in diameter, white.

Tongatapu: climbing in thicket near sea below Fu'amotu village, June 5, 1953, *Yuncker 16244;* roadside, Vahe, *Setchell and Parks 15434.*

'Eua: on seaward terrace of coastal cliff, in thicket along trail down to Lokupo, Mar. 27, 1953, *Yuncker 15527;* on seaward-facing limestone cliff, summit of the eastern ridge, Apr. 8, 1953, *Yuncker 15686.*

Occasional.

Tongan name: *puataukanave.*

M. nemoralis A. DC. and *M. viticnsis* Seem. were included in Hemsley's list, and the former also in Burkill's list. *M. nemoralis* was described from a New Hebrides collection, and there is some doubt as to its occurrence in Tonga. *M. vitiensis* is referred by Mez to synonymy under *M. persicifolia,* a common and presumably Fijian endemic. It appears rather doubtful, therefore, that it occurs in Tonga.

Maesa sp. [?]

Scandent shrublike plant, climbing in thicket. Leaves oval-ovate, acuminate, base obtuse, up to 12 cm. long and 8 cm. wide, thin, entire, pinnately nerved, nerves reddish, petioles about 1 cm. long, slender. Flowers and fruit lacking.

'Eua: in shrubbery thicket in opening in forest near "Smoky Hole" above Fuai plantation, Mar. 31, 1953, *Yuncker 15572.*

Tongan name: *tuamea.*

Genus **Discocalyx** Mez

Discocalyx listeri (Stapf) Mez and Stapf, Pflanzenr. 9 [IV. 236]: 212, 1902.

Glabrous shrub up to 2 m. tall. Leaves alternate, oblong or oblanceolate, up to 15 cm. long and 4-5 cm. wide, obtuse, base narrowed, pinnately nerved, petiole up to 2 cm. long. Flowers small, in terminal panicles.

'Eua: *Lister.*

Presumably endemic to 'Eua. Only the type is cited by Mez.

Ardisia listeri Stapf in Hemsley's list.

[1] /Apium leptophyllum -- Analyst/

Tongatapu: *Nelson;* near Niutoua village, Mar 2, 1953, *Yuncker 15141.* 137

'Eua: in forest on seaward side of cliff above Houma village, Mar. 26, 1953, *Yuncker 15509.*

Kao: lower margin of forest near an old plantation, May 6, 1953, *Yuncker 15969.*

Vava'u: *Crosby.*

Occasional throughout Tonga at low altitudes. Philippines, Micronesia, and New Caledonia east to the Societies and Marquesas.

O. parviflora (Forst.) Hemsl. in Hemsley's and Burkill's lists.

Tongan name[1]: *fao.*

The wood is used for construction work and the leaves to wrap fish for baking. The seeds are edible. [824] [313] [252] [262]

Genus **Bleekeria** Hasskarl

Bleekeria vitiensis (Markgraf) A. C. Smith, Torrey Bot. Club, Bull. **70**: 549, 1943.

Tree up to 7 m. or more tall, latex white. Leaves whorled, elliptic-oblanceolate, acute, base cuneate-decurrent, up to 12 cm. or more long and 3 cm. wide, pinnately nerved, lateral nerves very slender, somewhat coriaceous, petiole about 1 cm. long, ridged by decurrent blade margins. Flowers white, in axillary cymose clusters; fruit compressed-elliptic, in pairs, about 4 cm. long and 2 cm. wide.

Vava'u on upper rim of seaside cliff above Ha'alaufuli on northeastern side of island, alt. about 120 m., May 21, 1953, *Yuncker 16107.*

Tongan name: *toto hina.*

The cited specimen, with both flowers and fruits, does not differ essentially from the specimens listed by Markgraf as *Excavatia vitiensis* (B. P. Bishop Mus., Bull. **141**: 127, fig. 66, *b, c,* 1936) from the Lau Islands of Fiji. A probable record of this species in Tonga was noted by Burkill (Linn. Soc. Bot., Jour. **35**: 46, 1901) as *Ochrosia elliptica* Labill., a species properly known as *Bleekeria elliptica* (Labill.) Koidz. and perhaps occurring no farther east than the larger islands of Fiji. (A. C. Smith.) [113] [113]

Genus **Cerbera** Linnaeus

Cerbera manghas Linnaeus, Sp. Pl., 208, 1753.

Small tree, up to 7 m. or more tall. Leaves simple, entire, glossy, spirally and closely arranged, lanceolate or obovate-lanceolate, acuminate, base acute-decurrent, up to 20-30 cm. long and 5-8 cm. wide, petiole 2-3 cm. long, narrowly winged by decurrent blade margins. Flowers in long-pedunculate, branching, terminal clusters, corolla salverform, white with yellow throat, 3 cm. or more wide, aromatic; fruit oval or elliptical, large, smooth, black when ripe.

Tongatapu: *Moseley;* in thicket along strand below Navutoka village, Feb. 27, 1953, *Yuncker 15106.*

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[1] /Ochrosia oppositifolia -- Analyst/

Flowers one to three on a long, axillary peduncle, calyx lobes with an awl-like tip up to 1 cm. or more long, corolla tubular with broadly spreading limb, up to 10 cm. or more long, white. 137

Tongatapu: in roadside thicket near Nuku'alofa, 1926, *Setchell and Parks 15610.*

Vava'u: climbing in thicket near shore of lagoon at Vaihoi, May 26, 1953, *Yuncker 16193.*

Infrequent. A tropical American species now widely distributed in warm countries.

I. bona-nox L. in Hemsley's and Burkill's lists.

Ipomoea batatas (Linnaeus) Poiret, in Lamarck, Encycl. Méth. **6**: 14, 1804.

Smooth, creeping, herbaceous vine, forming large, edible, root tubers. Leaves alternate, deltoid-ovate, variously lobed but commonly with two prominent basal lobes, acute, petiole slender and longer than blade. Flowers purplish red.

The tubers represent an important item in the diet of the Tongans and are cultivated throughout Tonga. A South American species now pantropic in distribution. 824 262 244

Tongan name: *kumala*. The following varieties are distinguished:

Fa'afonua: stem and leaves are pubescent; flesh of tuber, firm and pink.
Finau: leaves are large, light green; tuber often nodose, white.
Kumala 'ena: leaves are large; tuber, white but purplish toward center.
Kumala kula: stem is greenish red; skin of tuber, red.
Kumala lesi: stem is greenish red; skin of tuber, red.
Kumala tai: stem is green; skin of tuber, pink.
Lokoloka: leaves are large, thin, round; skin of tuber, pale, flesh purplish.
Mosese hina: stem is light green; leaves, large; skin of tuber, pale.
Mosese kula: leaves are large, round, purplish; skin of tuber, pale.
Palatea.
Silika: stem is dark green; skin of tuber, pink.
Tai: skin of tuber, pale.
Teiko: young leaves are purplish; skin of tuber, yellowish.
Tongamai: stem is light green; skin of tuber, pale.

Ipomoea cairica (Linnaeus) Sweet, Hort. Brit., 287, 1827.

Glabrous, slender, twining, branched vine. Leaves broadly ovate in outline, 6 cm. or more long and about as wide, five- to seven-divided, divisions elliptic-lanceolate, acuminate, petioles slender, as long as blade. Flowers narrowly campanulate, 5-6 cm. long, corolla deep lavender, paler outside. 137

Tongatapu: climbing over shrubbery in low, waste area near Nuku'alofa, Mar. 7, 1953, *Yuncker 15201.*

Vava'u: in roadside thicket between villages of Faletoa and Leimatua, Mar. 20, 1953, *Yuncker 16054.*

Occasional as an escape from cultivation. A tropical Asiatic species now widely distributed.

Tongan name: *maile miniti.*

76: Yuncker N-4,5 (1953) 1959 0U9 Tonga 0U9

Tongatapu: near dwelling in Nualei village, Mar. 9, 1953, *Yuncker 15235.* 137

Occasional about dwellings and in plantations. A tropical American plant,[1] now widely planted for its use as tobacco.

Tongan name: *tapaka.*

The tomato (*Lycopersicon esculentum* Miller), the potato (*Solanum tuber-* [824]
osum Linnaeus), and the eggplant (*S. melongena* Linnaeus var. *esculentum* [244]
Nees) are cultivated to some extent as food crops. Many varieties of petunia [262]
(*Petunia hybrida* Vilmorin) are grown for ornament. [247]

FAMILY SCROPHULARIACEAE

Genus **Lindernia** Allioni

Lindernia crustacea (Linnaeus) F. Mueller, Census, 97, 1882.

Small, much-branched herb, 10-20 cm. tall, stems angled and slightly winged along ridges. Leaves opposite, ovate, acute at both ends, serrate, up to about 1 cm. long, sparsely pubescent, petiole very short. Flowers 5-8 mm. long, pale lavender, solitary on rather long, slender, axillary pedicels; capsule obovate-elliptical, compressed, about 3 mm. wide.

Kao: on thin rocky soil in open alpine area, alt. 600-700 m., May 6, 1953, *Yuncker 15925, 15930.*

Vava'u: *Crosby.*

Infrequent. A native of the Old World tropics; now of wide distribution in warm climates of both hemispheres.

Genus **Russelia** Jacquin

Russelia equisetiformis Schlechtendal and Chamisso, Linnaea 6: 377, 1831.

Semi-shrubby plant, up to about 1 m. tall, with longitudinally ridged, green stems, and numerous verticillately arranged, drooping branches. Leaves very small, linear or awl-shaped, whorled. Flowers about 2.5 cm. long, in lax, terminal clusters, corolla tubular, red.

Occasional in villages. A Mexican species, now widely cultivated in warm countries as an ornamental.

FAMILY BIGNONIACEAE

Genus **Stenolobium** D. Don

Stenolobium stans (Linnaeus) D. Don, Edinb. Philos. Jour. 9: 88, 1823.

Large shrub, about 4 m. tall. Leaves opposite, pinnate, leaflets five to 13, narrowly elliptic, up to 10 cm. or more long and 3 cm. wide, serrate, acuminate, base cuneate, sessile, pinnately nerved. Flowers in large, terminal, paniculate clusters, corolla up to 5 cm. long, yellow, narrowly bell-shaped, ornamental; fruit narrow, up to about 10 cm. long.

Tongatapu: near dwelling in Nuku'alofa, Mar. 7, 1953, *Yuncker 15200.*

An American species, now widely planted as an ornamental in warm countries.

[1] /Nicotiana tabacum -- Analyst/

Genus **Benincasa** Savi

Benincasa hispida (Thunberg) Cogniaux, DC. Monogr. Phanerog. 3:513, 1881. 137

Wide-spreading, hairy vine. Leaves rounded-ovate, base rounded, cordate, 5- or 7-lobed, up to 25 cm. or more wide, tendrils branched. Flowers yellow, 8-10 cm. or more wide, solitary, axillary, male flowers long-pedicellate; fruit oblong to cylindrical, up to 40 cm. long, hairy, flesh white, edible.

Vava'u: *Crosby.*

An Asiatic species now widely cultivated as a food plant.

The muskmelon (*Cucumis melo* Linnaeus), the cucumber (*C. sativus* Linnaeus), the watermelon (*Citrullus vulgaris* Schrader), the squash (*Cucurbita maxima* Duchesne), and pumpkins (*C. pepo* Linnaeus) are cultivated for their fruit. [824] [244] [262]

FAMILY CAMPANULACEAE

Genus **Wahlenbergia** Schrader

Wahlenbergia marginata (Thunberg) A. de Candolle, Monogr. Campanul., 143, 1830.

Low, nearly glabrous herb with strong tap root, stem with numerous, slender, erect branches. Leaves small, alternate, linear-lanceolate, reduced, scalelike upward. Flowers blue, on very slender pedicels up to 3 or 4 cm. long, in few-flowered, branching, terminal clusters.

'Eua: in moist, grassy area on central plain approaching eastern ridge, Mar. 30, 1953, *Yuncker 15551.*

An Asiatic species rare in Polynesia.

Probably the same species collected on 'Eua by Lister and reported by Hemsley as *W. gracilis* A.DC.

Genus **Hippobroma** G. Don

Hippobroma longiflora (Linnaeus) G. Don, Gen. Syst. 3:717, 1834.

Thinly pubescent, sparsely branched herb up to 25 or sometimes 50 cm. in height. Leaves alternate, elliptic-lanceolate, acute, narrowed to sessile base, margin sharp-toothed, up to 10 or 15 cm. long, pinnately nerved. Flowers white, axillary, tubular, narrow tube up to 6 or 8 cm. long, lobes spreading to 3 or 4 cm.; capsule nodding, about 1.5 cm. long.

Tongatapu: local in low, moist situations about Nuku'alofa, Mar. 7, 1953, *Yuncker 15197.*

A native of tropical America widely distributed in the tropics where it often escapes from cultivation. The juice is said to cause skin irritation and the plant to be poisonous when eaten. In the most recent treatment of this group, Wimmer [Pflanzenr. 107 (IV. 276b): 405, 1953] discusses the species as *Laurentia longiflora* (L.) Endl.

226 Fish nets (*finaki*). A fish net is made from the leaves of the
[286] coconut palm. The roots are plaited into a round net very much like
a lobster net; when ready it is sunk in the sea, weighed down by a
stone or some heavy weight. The fish swim into an opening in the net.

USES OF THE COCONUT PALM

824 The coconut tree is considered by the natives to be the most useful
tree in Tonga. It is indispensable in house building, and the number
[481] of articles made from its wood and leaves is remarkable. The heart
[278] of the tree is used for making walking sticks, the bark for medicine,
[226] the roots for a kind of fish net called *finaki*, the leaves for baskets,
[285] [342] thatching houses, and making mats and flooring. The uses of the
[352] fruit are innumerable.

824 As a medicine the fruit is given to pregnant women to increase
853 the supply of breast milk. For this the green nuts are used. A new-
[843] born child is always given *namoa*, which is made from the roasted
flesh of the ripe nut. This roasted flesh is chewed by someone,
usually a woman, and when taken from the mouth is rolled in a piece
of *fetaaki*, squeezed, and the juice given to the child. This is his
only food for four days.

824 Ripe coconuts are valuable for copra, which is the dried flesh.
[439] This is sold to European markets largely, where it is used for soap,
candles, oils, and a variety of products. The shells of the coconut are
[314] burned and made into charcoal (*malala*) for ironing. Kava cups also
[415] are made from the shells.

824 No native food is considered complete without the presence of
262 coconut in one form or another. Yams, fish, and bananas are usually
[252] cooked in the milk extracted from the flesh of the ripe coconut and
strained through coconut fiber.

824 Brooms are made from the ribs of the leaf, and the leaf stem is
[412] used for stirring oil, also as weights for tapa which is spread on the
[287] ground for printing. The bark (*kaka*), which surrounds the leaves
[415] at the body of the palm, is used to make bags for wrapping arrow-
root and medicines.

The several varieties of coconut palms have different uses.

VARIETIES OF COCONUT PALMS

245 **KAFA.** The nut is gathered when green and husked, the husk put in a native
824 oven and left for two weeks, after which it is taken out and beaten to re-
[285] move all the dust. The fiber thus obtained is plaited into mats.

77: Whitcombe Y-3 (no date) 1930 OU9 Tonga OU9

NIU UI. NIU MEA. A clay-colored nut.

NIU MATA KULA. A red-eyed nut, used as a medicine for gum boils. 245 824

NIU MEAALAVA. A green nut, used as a medicine for gum boils in young children. The husk at the top of the nut is grated and spread over the boil. [757]

NIU KAFAKALA. A great favorite among the chiefs, because of its perfect shape and size. The milk has a delicious flavor. [272]

NIU VAI. The largest coconut obtained in the South Seas. In the early days these shells were used for carrying water and when thus used were termed *hohoni*. [415]

NIU TAUKAVE. Has a small fruit.

NIU TEA. A white nut.

NIU UTOGAU. A nut with a sweet husk which the natives chew like sugar cane. [262]

NIU LEKA. This tree grows to a height of only ten feet and has a dwarf nut.

NIU KULA. A very different variety of coconut from all the others on the island. The nut is the size of a man's thumb; it has no milk, but a lump of white jelly surrounded by a thin, white, bitter skin. The tree is tall with a smooth body.

GAMES PLAYED BY CHILDREN

In the game, *kamotu'u*, several boys sit forming a ring; one goes 857 to the center, closes his eyes, and stands looking upward until a boy 524 from the circle touches him on the foot or leg. He then opens his eyes and goes to each boy in the circle, snapping his fingers in the face of each. When his fingers snap the loudest he has found the boy who touched him.

In *galigali a toke*, the boys stand in a row with hands on each other's hips. One player stands alone, facing the line. When the game begins, the line of boys starts running in a ring, and the lone player (*ell*), tries to catch any boy behind the leader of the line. While the game is being played this song is sung: "Galigali a toki, tuki be he ulu e toke." (Looks like an *ell* trap, but punch the *ell* on the head).

To play *touhuhu*, the boys hang a shaddock (*moli toga*) to a tree or stick and stand around it with sharpened sticks in their hands. One boy pierces the fruit with his stick, and strikes it to start it spinning around. The other boys then try to spear it while it is spinning, and the one who accomplishes this first wins the game.

Another game for boys is *tafau*. This is played with native bows and arrows. The weapon is made by taking a *kaho* stick about a yard long, splitting it down about twelve inches, and twisting one end of a piece of *fau* bark around the stick at the place where the split stops. The other end of the *fau* bark is held in the hand. The *kaho* stick or arrow is swung over the shoulder in playing, very much as if one

81: Bott E,P-4,5 (no date) 1972 OU9 Tonga OU9

276 ‘children’ and ‘grandchildren’ in this part of the outer group
574 are women.

554 The left-hand portion of the outer group is also composed of
565 ‘children’ of the titles. Most of the people in this group are men, and they do the heavy work of the ceremony – carrying the kava, pigs, and other food in and out, dividing the food for distribution, and so forth. The path between this group and the central group is called the ‘path of work’ (*hala ngāue*), whereas the path between the right-hand group and the centre group is called the ‘sacred path’ (*hala tapu*).

Finally, at a formal royal ceremony, there are certain very important chiefly titles that are seated right at the back, behind the outer group (see *Figure 2*).

To summarize the salient facts about the seating: the chief whose title is genealogically senior sits at the head of the main circle; the rest of the main circle is made up of formally appointed titleholders, chiefs and matāpule, sitting alternately. The titles of the chiefs in the main circle are supposed to be genealogically junior to the title of the presiding chief. The outer group is composed, first, of men who hold minor chiefly titles that stand in the relation of ‘younger brother’ to the titles in the main circle and, second, of men and women without titles who are the ‘children’ and in a few cases also the ‘grandchildren’ of the titles in the main circle.

The first thing that happens in the ceremony is that people
276
574 come in and seat themselves. Kava plants and sometimes food
are presented to the presiding chief and placed in the centre
● [262] of the circle (see *Figure 2*). The traditional food to go with the
kava is sugar cane, but vast quantities of pigs and other cooked
[262] food are presented along with it. Nowadays the sugar cane is often omitted. In a formal ceremony the food is meticulously counted and thanks for it are chanted by the matāpule. Then the presiding matāpule tells someone on the outer group to take a kava plant from in front of the presiding chief down to the bowl end, where it is split up, cleaned, and then pounded by the kava maker. (Traditionally small bits of the kava root were

132 The prevailing winds, which considerably temper the heat, are the
South-East Trade Winds. The ocean currents are also from the south-east ;
133 interesting proof is found in the fact that wreckage from the steamer
"Tahiti," which foundered about 500 miles south-east of Togatabu in
August, 1930, had drifted to the east coasts of Vava'u and the Ha'abai
islands by the following December.

132 Hurricanes are seldom experienced in Togatabu, but they sometimes
occur in the northern islands where they work great havoc to plantations
731 and buildings. The most disastrous hurricanes of recent years
happened in 1912 and 1913 in Vava'u and Ha'abai. Niua Fo'ou was
ravaged by successive blows in December, 1930, February, 1931, and
March, 1932, and the hurricane of December, 1930, destroyed almost
every house in Niua Tobutabu.

731 Earthquakes are fairly common but are not severe, as a rule.
133 Instances of damage caused by tidal waves accompanying shakes are
recorded in some places such as Lifuka and 'Uiha, low islands of Ha'abai.

136 ANIMALS AND PLANTS.

231 Pigs, fowls and rats seem to have been brought to Tonga many
[439] centuries ago ; as already noticed, Tasman, Cook and other voyagers
exchanged iron goods for pigs and fowls. Hunting rats was a favourite
[175] sport of the chiefly archers in former times. Pigs and fowls still form the
[224] only meat-diet of the village people. Their gardens are often spoiled by
[262] roving pigs ; and these creatures infest some uninhabited islands such
as Tofua, while the distant island of 'Ata swarms with fowls. Snakes
136 are unknown, but there are several varieties of lizard, including a green
lizard (fokai). There are numerous insect pests, such as centipedes and
mosquitoes.

231 Europeans have introduced horses, cows, goats, turkeys, etc.
[175] Cook presented the first horses, cows and sheep to Bau, Maealiuaki and
Finau in 1777 ; the cattle were called Cook's "pigs" (buaka Tute) by the
[177] natives, a circumstance which has given rise to the fiction that Cook
brought pigs to Tonga. These islands are not very suitable for sheep.

Government statistics show the following animals in Tonga in 1931 :—7,467 horses, 1,661 cattle, 7 sheep, 18,231 pigs, 4,028 dogs, and 2,148 goats.

136 In 'Eua there is a green parrot which will not breed if taken elsewhere.
Probably the strangest bird in the group is the megapodius
(malau) at Niua Fo'ou which flies badly and leaves unusually large eggs
to be hatched in the sand ; this bird is also found in the Solomon Islands
[237] but nowhere between that group and Niua Fo'ou. The tavake is a bird
[565] whose blood-red tail-feathers were worn only by chiefs. As previously
stated, the absence of running water accounts for the rather small number
of birds in the group.

Reference has already been made to the large number of flying-foxes which find sanctuary at Kolovai, in Western Togatabu.

The sea everywhere abounds in fish, and sharks are plentiful.
226 The people are expert fishermen, but of all their methods none is stranger

than the way in which they noose sharks ; instances of sharks attacking 226
natives are very rare. Whales are sometimes caught. Turtles are also 225
plentiful. Perhaps the most interesting creature in Tonga is a land-
tortoise, now kept in the Palace grounds at Nuku‘alofa, and reputed to 231
have been left by Captain Cook ; it has been scarred by bush-fires and
other accidents, but in its old age it is honoured as though it were a chief 825
and is called Tu‘imalila, after a part of Labaha called Malila. 552

The graceful coconut-palm is the most distinctive as well as the 245
most valuable of plants in Tonga. All parts of the islands being very
close to the sea, coconut trees thrive everywhere, and copra, the dried
kernel of the nut, is the staple product. Other plants which grow in 241
profusion are many varieties of banana, plantain, yam, sweet potato,
talo, manioc, sugar-cane, pineapple, breadfruit, papaw-apple, mango and
arrowroot. Coffee, cocoa and cotton have been introduced but are not
yet extensively grown. Various European vegetables have also been
introduced, and corn has proved the best cereal for this climate.

Bananas, sweet potatoes, pineapples, tomatoes, pumpkins and 439
oranges could be exported in abundance, if markets were available. The
staple foodstuffs of the people are yam, sweet potato, talo, manioc, kabe, 262
plantain, breadfruit, etc.

The bark of the paper-bark mulberry is extensively used for making 824
native cloth (taba and gatu), and the sap of the koka tree is used for [287]
stamping this cloth. Mats are made from the leaves of the pandanus,
but unfortunately this domestic manufacture is declining generally, [285]
except in Ha‘abai. The trunks of the toa (ironwood) and koka are used [178]
for the posts of native buildings, but timber generally suitable for building
European houses is not found in Tonga. The ironwood or casuarina [313]
tree was used for making clubs and spears formerly, and is still used for
spade handles and mallets. The best of the old canoes were brought 505
from Fiji, where more suitable timber for all purposes is available. 439

Kava, the juice of a species of pepper-plant, is the national drink
on all occasions. Other interesting trees are the ovava, a species of 276
banyan ; gatae and tuitui (candle-nut) used for marking boundaries ;
Malayan apple or fekika, tava, and the ifi, whose leaves were hung round 137
the neck in token of surrender or penitence in olden times. 824

Government statistics in 1931 show a total of 2,658,644 coconut
trees and 832,655 banana plants in the Kingdom, 94% being owned by 245
Tongan cultivators.

EXPORTS.

Tonga is entirely an agricultural country, being without minerals 433
and secondary industries. It is unfortunate that there are still fairly
considerable areas of undeveloped land even in such a small country, 433
especially in Togatabu and ‘Eua, and further that several hundred tax- 311
payers have no allotments ; this latter condition is mainly due to indolence
on the part of some who live in the chief towns, but in the case of the
overcrowded islands of Ha‘abai it rises from rather a natural reluctance
to leave an old home. The Government is now making strenuous efforts 179
to enforce both more systematic cultivation of coconut-growing land and 245

88: Thaman

OU9 Tonga OU9

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[For scattered information on these topics, see Category 137 or 824, pp. 377-431.]

178 the most sophisticated island cultures in the Pacific, can
648 be at least partially traced to a number of factors: 1)
433 Tonga is the only major Island group in the Pacific that
has never been directly under the domination of a foreign
power; 2) all land is owned by native Tongans; 3) Tonga
is situated in a comparatively isolated and unstrategic
location; and, 4) apart from agricultural produce, land,
and human labor, Tonga has no known resources of any
substantial economic value to foreign interests.

178 As a result, the traditional Tongan agricultural
241 system is in many ways much the same as it was when Tasman
[433] first discovered the archipelago in 1642. The diet is
[262] still based on root and tree crops as part of a "bush
fallow" system, and many medicines, cosmetics, beverages,
fibers, ornaments, and other subsistence needs are fulfilled by the present agricultural system. However, as
241
433 stated by Schultz (1964: 3),

> The man who farms as his forefathers did cannot produce much food no matter now rich the land or how hard he works. The farmer who has access to and knows how to use what science knows about soils, plants, animals, and machines can produce an abundance of food though the land be poor. Nor need he work nearly so hard and long. He can produce so much that his brothers and some of his neighbors will move to town to earn a living. Enough farm products can be produced without them. The knowledge that makes this transformation possible is a form of capital whenever it is an integral part of the material inputs farmers use and whenever it is a part of their skills and what they know.

245 suckers and pieces of the rhizome or corm from the base of mature plants, which are transplanted to suitable areas.

[439] Banana - *siaine* (*Musa sapientum*). The series of clones known as bananas are a major export crop as well as constituting an increasingly important staple food. They are widespread throughout Tongatapu, generally planted in plantations. Like the plantain, they are native to Southeast Asia, and although some types were probably present before European contact, they have been replaced in most cases by new higher yielding and more exportable clones (Massal and Barrau, 1956: 15-16). A number of kinds of bananas are recognized by Tongans, the most common groups of clones being the *siaine Ha'amoa* (Samoan banana) or Mons Marie; the *siaine Tonga* (Tongan banana) or Cavendish; the siaine Fisi (Fijian banana) or Gros Michel (Johansson, 4. 1956: 3); and the pata and *mamae*. The planting times, time of maturation, period of optimum yield and the types of planting material are the same as for the plantain.

The coconut palm - *niu* (*Cocos nucifera*). The coconut palm, which seems to be native to tropical Asia, was either introduced by the early inhabitants of Tongatapu or arrived
[262] there by natural dispersal (Baker, 1970: 48-49). It is the most common tree crop found on Tongatapu, the most important commercial crop, and provides the coconut which is used in the preparation of almost all staple food. Countless other uses are made of all parts of the tree. It

243 Corn or maize - koane (Zea mays). Corn or maize, a native of Mexico (Herklots, 1972: 384), was introduced after European contact (Massal and Barrau, 1956: 44). [439] [438] Although being exported on a limited basis, it is primarily a subsistence crop as well as being sold at the local market. It is found on many bush and town allotments throughout Tongatapu, planted either alone or intercropped with yams, taro and other subsistence crops.

245 Edible hibiscus - pele (Hibiscus manihot). Pele, probably native to the Southwest Pacific (Massal and Barrau, 1956: 35) is a form of edible hibiscus, growing [262] [252] about three to five feet in height. It is an important green vegetable source (the leaves being cooked like spinach with or without coconut cream), is easily cultivated, and is commonly found throughout Tongatapu on both bush and town allotments. Two kinds, pele hina and pele kula, are commonly recognized by Tongans, the former being the more common.

Papaya or pawpaw - lesi (Carica papaya). Of tropical American origin and post-European introduction (Barrau, 1971: 5), the papaya is a ubiquitous plant which provides the most common fruit on Tongatapu. It grows on almost all bush and town allotments in both wild and cultivated states and is a dominant species in many secondary vegetation communities. There are a number of varieties recognized by Tongans, the most common being lesi Tonga, lesi meleni and lesi 'Initia.

244 naturalized state.

245 Passionfruit - *vaine* or *vaine Tonga* (*Passiflora edulis*). Passionfruit, a native of tropical South America and of post-European contact introduction (Merrill, 1945: 152), is commonly grown on town allotments on trellises or trees as well as growing in a naturalized state in the bush. It is occasionally sold at the market in Nuku'alofa. [438]

Granadilla - *pasione*. (*Passiflora quadrangularis*). The granadilla, also of tropical American origin and post-European contact introduction, is commonly found growing on trellises on town allotments, and occasionally on bush allotments.

● [262] Ladyfinger-*misapeka* (*Musa* clens). This dwarf banana, which was introduced into Tonga by Shirley Baker in the 1870's (Rutherford, 1971: 54), is infrequently cultivated on Tongatapu and is eaten in a ripened state as a fruit.

[262] Cordyline - *si* (*Cordyline terminalis*). *Si*, native to the Southeast Asian - Pacific region and present before European contact (Barrau, 1971: 21), is found both as an ornamental and as a cultivated or naturalized edible variety (sometimes referred to as *si kai*), which, although very common, is eaten only sparingly or in times of food shortage. It is found on most bush and town allotments, in many cases overrun by bush.

244 Cherry tomato - *temata vao* (*Lycopersicon esculentum*
[262] var. *cerasiforme*). This variety of the common tomato,

244 [262] native to South America and a post-European contact introduction, is generally not purposefully planted, but is found on many bush and town allotments and is eaten occasionally.

Chile pepper or tabasco - *polo fifisi* (*Capsicum frutescens*). The chile pepper is native to tropical America and of post-European introduction (Herklots, 1972: 351). Like the wild tomato, it is generally found in a feral state growing amongst secondary vegetation throughout Tongatapu or occasionally in a cultivated state on both bush and town allotments.

245 Coffee - *kofi* (*Coffea arabica*). Coffee, a native of the Ethiopian Highlands, was probably not introduced until the latter half of the Nineteenth century (Baker, 1970: 110-112; Parham, 1972: 267). It is occasionally grown in small concentrations in isolated forest stands or under trees on bush or town allotments. Although some local coffee is prepared by a number of families, it is not produced on a commercial basis.

249 272 Lemon grass - *moengālō* (*Cymbopogon citratus*). Probably a native of Malaysia (Herklots, 1972: 483) and probably introduced around the turn of the century (Parham, 1955: 122), lemon grass is frequently planted on both bush and town allotments, the leaves being used in the preparation of tea and the roots for scenting coconut oil.

137 *Teve* (*Amorphophallus campanulatus*). This traditional
262 Pacific aroid, although supposedly eaten as a starch in the past, is rarely if ever eaten and is found only occasionally in a wild state on bush allotments.

241 Other miscellaneous food plants. There are a number of other, introduced food plants which are grown on an infrequent basis, primarily on town allotments, such as roselle - *lasipeli* (*Hibiscus sabdariffa*).

Important Non-food Plants

There are a considerable number of important non-food plants (not including large trees), which are also commonly found on bush and town allotments throughout Tongatapu; these include:

248 Paper mulberry - *hiapo* (*Broussonetia papyrifera*). Of
287 East Asiatic origin and ancient introduction into the
Pacific (Yuncker, 1959: 97), paper mulberry is traditionally
one of Tonga's most widely grown, non-food plants, its
fibrous inner bark being used to make tapa cloth or *ngatu*.
248 It is grown on a large number of bush allotments throughout Tongatapu, either alone or intercropped with other subsistence crops. It takes about 12 to 18 months to mature, can be cut continuously for a number of years and is often found in bush fallow associations where it remains useful for the production of tapa cloth.

247 Screwpine (*Pandanus spp.*). Although commonly found growing naturally throughout Tongatapu, there are a number

249 Turmeric - *ango* (*Curcuma longa*). Turmeric, supposed-
ly of Indian origin and probably Pre-European introduction
(Yuncker, 1959: 86) is cultivated and found growing
[386] naturally throughout Tongatapu. The rhizome is used in
[278] making a yellow dye (*enga*) and in the preparation of
medicines.

Arrowroot - *misimisi koka'anga* (*Maranta arundinacea*).
The common arrowroot, a native of tropical America and the
West Indies, was probably an early European introduction
[287] (Berklots, 1972: 356). It is found only occasionally in
a cultivated state on town allotments and is used as a
substitute for *Tacca leontopetaloides* and *Manihot esculenta*
in the preparation of paste for tapa making.

249 Hyacinth bean - *piini Tonga* (*Dolichos lablab*). Native
242 to the Old World Tropics and probably introduced (Stone
1970: 333; Parham, 1972: 112), the hyacinth bean is found
occasionally on bush allotments planted on fallow land to
restore soil fertility. The use of it in this capacity is
[262] encouraged by the Agricultural Department. In times of
food shortage, the seeds are also eaten.

249 *Kava'aukava* or *kava Fisi* (*Derris elliptica*). Native
to Indomalaysia and possibly a recent introduction from
Fiji, *kava Fisi* is occasionally found in both a planted and
[226] a natural state on bush and town allotments. The roots are
used to stupify fish (Parham 1972: 111).

245 cropping. The most important of the tree species found on bush and town allotments on Tongatapu are listed below in two categories: valuable fruit trees and other valuable trees (for specific uses of these trees see Appendix E).^A

● [262] Fruit trees. Cultivated and wild fruit trees, on both bush and town allotments, are of considerable importance as supplementary food sources. In addition to the coconut palm - niu (Cocos nucifera) and the breadfruit - mei (Artocarpus altilis) described above, the major species include:

A range of citrus trees, including the orange - moli kai (Citrus sinensis); the lemon - lemani (C. limon); the mandarin-moli peli (C. reticulata); the pomelo - moli Tonga (C. maxima); the lime - laime (C. aurantifolia) ; the citron - kola (C. medica); the sour orange - moli mahi (C. aurantium) and another citrus species, the moli vaikeli, are all found on Tongatapu bush and town allotments. Native to Asia, all are post-European contact introductions, with the possible exception the pommelo (Parham 1972: 232-233; Prevost and Pitkanen; 1970: 35, 71, 101, 103). Most types are in season between February and June, except for lemons which are available in variable quantities throughout the year.

Mango - mango (Mangifera indica). The mango is native to India and the Malay Peninsula (Prevost and Pitkanen, 1970: 17) and is probably a very early

^A[See Category 137, pp. 377-431--Analyst.]

245
318
654 have been distributed by the Department of Agriculture as part of a reforestation scheme.

Common Weeds and Secondary Vegetation Species

137
[262] There are a great number of common weed species found throughout Tongatapu in secondary vegetation associations, many of which are eaten or are used in some beneficial way (see Appendix E)[A] as well as serving as reliable indicators of both soil fertility and the period of time that land has been under fallow. Some of these weedy species are possibly native to Tonga, but a majority of them are post-European contact introductions which have become dominants in most secondary vegetation associations

[246]
[247] (Merrill, 1945: 119). In some cases, they were deliberate introductions as ornamentals or fodder grasses, such as Lantana camara, Panicum maximum, Rhynchelytrum repens, Melinis minutiflora and Mimosa pudica (Government of Tonga, 1949: 4; Yuncker, 1959: 62). The most common weed species on Tongatapu and the assumed places of origin are listed below:

A majority of the common weeds seem to be native to tropical America; these include: te'ekosi (Ageratum conyzoides); tu'ulapepe or vavae kona (Asclepias curassavica); fisi'uli (Bidens pilosa); misimisi (Canna indica); te'epulu or tengafefeka (Cassia tora); hefa (Cenchrus echinatus); piini or piisi (Crotalaria mucronata); lau veveli (Elephantopus mollis); 'akauveli (Indigofera

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[A] [See Category 137, pp. 377-431--Analyst.]

136 rattus), the Norwegian rat (Rattus norvegicus), as well as
231 cats, cattle, horses, goats, sheep , turkeys, ducks, and
possibly insects such as the rhinoceros beetle (Oryctes
rhinoceros) and fruit flies were introduced after European
231 contact. Dogs, cats, pigs, cattle, horses, goats, chickens,
ducks and turkeys are presently important domesticated
136 animals. There are presently no sheep in Tonga. Rats have
become naturalized, and cats and chickens are represented
by feral stock; there were formerly also feral pigs.

The fruit bat or peka is nocturnal and feeds almost
exclusively on fruit such as bananas, mangoes, and papayas.
Although the fruit bat population is increasing, the
[262] problem is not considered serious. Furthermore, the peka
[565] provides an excellent source of protein, which, although
supposedly reserved as a delicacy for the nobility, is
eaten occasionally by commoners.

[241] Rats constitute a major nuisance and cause consider-
245 able damage to a variety of crops. Owing to the economic
136 importance of copra, most of the research concerning rat
damage has been focused on its effect on coconut production.
Estimates of loss in coconuts have ranged up to 80 percent.
Recent studies, however, indicate that this is a gross
overestimation and that loss of yield in any individual
stand of coconut palms is rarely over 10 percent (Pierce,
1971b: personal communication). Rattus rattus comprised
80 percent of all rats trapped in coconut palms during the

463 around their own households, including preparation of
462 agricultural crops and handicrafts, and working in dooryard
162 gardens or on the bush allotments.

463 A high percentage of Tongan males employed in agriculture is also shown by the survey of households conducted by the author in 1971 (Table 17). These data show a majority were full-time farmers and that another 15 percent had some other employment, such as a village storekeeper, part-time banana inspectors/or a lay preachers, but still considered themselves primarily farmers. Out of 149 households, there were 39 households with more than one full-time farmer (one household with five; two with four; eight
[461] with three; and 28 with two). Of the 36 heads of households who considered themselves full-time wage workers, 58 percent put in some time, ranging from 1 1/2 to 16 hours per week farming on their allotments. Of these 36 full-time wage earners, five did not own allotments.

262 Subsistence Needs

241 The Tongan diet continues to be largely dependent on staple and subsidiary crops grown on traditional garden
262 allotments. In a listing of the relative importance of
439 items in the diet (Table 18), only a few imported items
128 such as bread (made from imported ingredients), mutton,
[263] and canned fish rank high on the list. Imported luxury items used more for flavor than nutrition, such as canned fruits, gelatin desserts, ice cream, sugar, salt, and canned or dried milk, are not listed.

88: Thaman K-5 (1967-1973) 1978 OU9 Tonga OU9
Tongatapu

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[128]

Table 18. Relative importance of foodstuffs, based on number of days per year on which a given product is consumed. (Averages of a random sample of 25 households).

I = Imported from overseas, P = Partially imported.

Item	Days/Year	Item	Days/Year
Coconut	343.3	Green onions	66.6
Manioc	340.2	Sugar cane	66.0
Bread(I-ingredients)	257.8	Green plantain	63.3
Taro leaves	233.7	Ripe bananas	54.6
Green bananas	223.7	Tomatoes	51.2
Taro *Futuna*	211.0	Butter (I)	47.2
Taro *tea*	179.2	Corn	46.4
Edible *Hibiscus*	152.5	Watermelon	45.5
Mutton (I)	143.0	Manioc bread	43.8
Flour (I)	114.3	Sea weed	42.9
Papaya	104.3	Eggs	35.9
Canned fish (I)	100.3	Pineapple	34.5
Fresh fish	100.0	Chicken	33.4
Sweet potato	98.5	Canned corned beef	31.9
Onions (P)	94.3	Tahitian chestnut	29.0
Giant taro	77.0	Cabbage	24.2
Breadfruit	75.2	Pork (P)	23.2
Yams	73.3	Beef (P)	23.0
Shellfish	67.0	Beans	20.8

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439

Item	Days/Year	Item	Days/Year
Carrots	16.7	Cucumber	3.6
Pumpkin	16.0	Dog	2.8
Green *pata* banana	13.5	*Sonchus oleraceus* leaves	2.7
Goa yam	13.4	*Ochrosia oppositifolia* fruit	2.4
Bell pepper	13.4	Duck	2.2
Lettuce	13.3	Goat	2.0
Solanum nigrum leaves	12.2	Ripe plantain	1.4
Ripe plantain	11.2	Sweet potato leaves	1.1
Swamp taro	8.6	*Cordyline terminalis* tuber	0.8
Chinese cabbage	6.5	*Misapeka* banana	0.8
Horsemeat	6.1	Cat	0.3
Ripe *mamae* banana	6.0	Pandanus fruit	0.3
Sausage (I)	5.6	Polynesian arrowroot	0.2
		Manioc leaves	0.2

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[177]
[439]

Except for ceremonial occasions, European dress and imported material have replaced the tapa cloth worn prior to European contact. However, the traditional *ta'ovala*, a woven or plaited mat-like garment which is tied around the waist by a cord, is still worn formally and informally by Tongan men and women.

245 subsidies for adequate maintenance of the young trees, and
654 many new palms have been killed as a result of burning,
[244] competition by weeds, or trampling by horses or cattle. The
fertilizer is often diverted to other crops, such as water-
melons or European vegetables. The palms generally are
poorly cared for and many allotments are not planted with
● [262] sufficient palms to obtain maximum yields. Nevertheless,
the fact that most allotments do have mature coconut palms,
and some have replanted palms, reflects their importance
not only as a source of cash but also as a major staple
item in the Tongan diet.

241 Bananas and Other Commercial Agricultural Exports

439 The other export crop, bananas, along with commercial
watermelons, pineapples, and garden vegetables, have also
become integral parts of the cropping sequences on bush
[655] allotments. In 1940, bananas, watermelons, pineapples, and
a number of other products were declared "commodities" under
the Agricultural Organization Act and have since been
marketed only through the Tonga Produce Board (Wylie, 1967:
1557-1563).

245 Bananas became an important export in the first decade
439 of the century. In 1908, over 100,000 cases were shipped to
New Zealand at a value of $T28,000. In 1909, however, New
Zealand trade restrictions caused a considerable decline in
the export of bananas. This decline lasted until 1931 when
a satisfactory trade agreement was reached (Naval Intelli-

241 bush allotments, usually amongst the secondary vegetation or as ruderals, and are occasionally planted or protected in cultivated plots. [245] A further difficulty arises in the case of Cordyline terminalis, which is planted as borders along roads or around houses, and has both edible and non-edible varieties. Unfortunately, during the study of the bush allotments, no distinction was made between these varieties.

245
241 Bananas, including pata, plantains, and pineapples are important supplementary food crops as well as commercial crops. On a majority of the sample allotments they were intercropped with dominant staples, planted in small homogeneous patches or along borders of other crops or along paths. Of all the allotments where bananas were present (Table 32), only 15 had commercial plantings, none of which were pata bananas. In the case of plantains, only 7 allotments had homogeneous, obviously commercial stands. Similarly, out of the 31 allotments where pineapples were present, only 12 had homogeneous patches.

[262] Edible hibiscus or pele (Hibiscus manihot) and different varieties of taro constitute the main vegetable greens consumed by the average Tongan. This hibiscus was cultivated on 36 sample allotments (Table 32), of which 20 had more than 20 plants, 2 had 5 to 20 plants, and 3 had 1 to 5 plants. It was either intercropped with other subsistence crops, planted in small homogeneous patches, or along borders of cultivated areas or paths.

241 248 where an extensive planting of paper mulberry had been completely overgrown by a dense stand of Leucaena leucocephala, while still retaining its value for use in the preparation of tapa cloth. Paper mulberry is traditionally an integral crop in the bush fallow cropping sequence.

241 249 Bamboo (Bambusa vulgaris) has two important varieties, pitu, the taller, stronger variety and kofe, the smaller variety. Four allotments had discrete stands (three of kofe and one of pitu); on the other 6, bamboo was generally amongst secondary vegetation. It is valued for general construction or handicraft work.

Sword grass or kaho (Miscanthus floridulus) was present on 1 allotment as a discrete stand and on 5 in scattered concentrations. Like pitu and kofe, it is valued for general construction and for handicrafts.

A bird-of-paradise-like plant, known locally as loufao or loufusi faikakai (Heliconia sp.), was found in isolated clonal clusters on 9 sample allotments where it was planted or protected. The leaves are used to wrap pudding (faikakai).

The cycad or longolongo (Cycas circinalis) was found on 7 allotments around dwellings, along paths, around small cemeteries, or amongst secondary vegetation. In most cases, it seems to have been deliberately planted, either as an ornamental or for its leaves which are used as a festive [262] decoration. The seeds are also eaten, after thorough

241 249 [262] preparation, in times of food shortage.

Job's tears or *hana* (*Coix lachryma-jobi*) was found planted on 2 allotments in discrete stands and as a volunteer on 4 others. It is increasingly cultivated for production of seed necklaces and other handicrafts.

Tevunga (*Hedychium coronarium*), the leaves and roots of which are used to scent coconut oil (*lolo Tonga*), was found in cultivation around dwellings on 6 allotments. It also occasionally escapes and becomes naturalized.

Polynesian arrowroot or *mahoa'a* (*Tacca leontopetaloides*) was found planted alone on a plot of 0.30 acres (0.12 hectares) on 1 allotment. On the 3 other allotments, it was either intercropped with yams or among secondary vegetation. In the past, it seems to have been grown more widely to prepare paste for tapa making and for occasional use as an edible starch.

Maile (*Alyxia stellata*) leaves are used to make leis, sashes, and decorations for festive occasions. On 3 bush allotments it was found in a wild state; on another, it was cultivated or protected near a temporary dwelling.

241 248 Cotton or *vavae Tonga* (*Gossypium brasiliense*) was present on three of the 101 sample allotments. On one, more than 20 plants were planted along the border between two bush allotments. On the other two, individual plants were found near dwellings.

241 249 Tobacco or *tapaka* (*Nicotiana tabacum*) was on one allot-

241 417 [245] Fencing, generally to protect crops such as paper mulberry (Broussonetia papyrifera) from destruction by livestock, was found on a number of bush allotments. On 10 percent of the sample allotments good condition barbed wire fencing was used around at least some portions of the land. On others, poor quality fencing or live fences and hedges were found; Erythrina variegata and Jatropha curcas were commonly used.

241 361 [231] Permanent residences were found on 13 percent of the sample bush allotments. These allotments were generally more intensively cultivated and fruit trees, useful plant species, and livestock were comparatively numerous. Temporary thatched houses were found on many bush allotments; these are generally used in guarding valuable crops.

241 231 [262] In some cases, livestock, primarily horses and cows, were tethered or allowed to graze on bush allotments. Most livestock, especially pigs, chickens, ducks, goats, and dogs (which are commonly eaten) were generally kept on town allotments. In almost all cases where these animals were found on bush allotments, the farmer's permanent residence was situated there also.

241 178 [137] In short, the agricultural system, as practiced on bush allotments, seems to have retained much of its traditional character. The types of crops and protected plants, intercropping practices, and plant successions have undergone few major changes. Some changes which have taken

91: Urbanowicz E-4,5 (1970-1971) 1977
OU9 Tonga OU9

457 not know enough of their own culture and history (or at least the aspects
654 of touristic interest), so the TVB published a pamphlet for local distribution
to remedy this particular complaint. The government has also built
small airstrips to encourage tourist travel to outlying islands and has
allocated substantial sums of money for hotel expansion and construction.
457 With the help of overseas (primarily Australian) backing, new hotels have
been recently constructed on Tongatapu and Vava'u. Japanese companies
648 have also expressed an interest in joint investment with the Tongan
654 government, in facilities that would serve the public and *especially* entice
177 the now almost nonexistent Japanese traveler to Tonga. With Japan in
mind, the Tongan monarch traveled to Japan, exchange clubs have been
[643] established. Tongans have been encouraged to visit Japan. Late in 1976
[484] the Japan/Tonga Friendship Fellowship opened a us$35,000 resort clubhouse
in Tonga, in an effort to develop growing contacts and increase
guests to Tonga. His Majesty also visited Hawaii in late 1976 to assess the
role of tourism, as well as the role of Tongans in tourism at the Polynesian
Cultural Center (see chapter 14).

Tourism, however, increases the economic problems—especially the
457 need for additional imported foodstuffs. Air passengers, for whom
439 facilities are largely being constructed, have to be fed, and although many
262 enjoy the local fruits and bread (made from the imported flour), few
would be content for long on the relatively bland Tongan diet of yams,
taro, and fruit. Tongans are, in effect, competing with the tourists for the
imported foods. The ever-increasing quantities of food that must be
[435] imported to feed the growing number of tourists contributes to the
[171] steadily rising CPI. A similar situation prevails in Fiji, as Ward (1976, p.
171) notes:

> Some [Fiji] hotels, in the interest of greater economy and convenience, only provide a strictly limited choice of meals and the sort of meals which tourists expect to receive in their home countries, e.g. of the steak-hamburger-mixed grill variety. Many hotels argue that this is all the tourist wants although the best hotels do provide more extensive menus. The majority [of hotels, however] do provide the food which is produced and consumed by the local inhabitants and this compounds the problem of buying requirements from domestic producers.

Ward also states that despite the availability of many local foodstuffs tourists might consume, hotels in Fiji prefer to purchase their requirements overseas because, it has been argued, "they can only then be assured of continuity in supplies and of a consistent high standard of quality."

Tourism has grown rapidly in Tonga, but it could evaporate just as
457 quickly. Tongans occasionally have experienced situations when the
anticipated tourists failed to arrive. In 1972, at least forty tour groups
cancelled their planned air visits to Tongatapu because the tour operators

ever-competent assistance of the A.D.C. 574
punctuated our days and nights.

Daily Feasts

During the first course the delegates 575
came from the far-away islands of 462
Vava'u and Ha'apai and the nearer Eua, 873
so they were daily entertained by a 574
different local village which provided 264
them with three handsome meals, the
midday dinner being served on low
tables on the *Langa Fonua* back ver-
andah. A lorry would arrive between [262]
11.30 and 12, a team of servers gaily
garlanded would leap forth and unload [252]
great plaited coconut frond *pola* or
stretchers laden with delicious food—
long yams or taro down each side forming
a protective wall for the pyramid
of whole sucking pigs (the pig population
in 1955 was 30,000), chickens,
shellfish, fresh fish, salads, water melons
and the popular *lu pulu* (corned beef
cooked with coconut cream and wrapped
in taro leaves) as well as a special local
cassava and caramel pudding also
wrapped in green leaves.

We would sit, a company of about [533]
35 to 40, on the floor round this long
laden table and eat with our fingers, [534]
helping ourselves freely while the host [535]
team entertained us with ukulele, songs
and high-spirited dances in which many
of us took part as a healthy digestive to
the superb meal. Speeches from the [537]
visitors and hosts took place throughout
the meal, the orator frequently weeping [201]
as a gesture of appreciation of such generous
hospitality.

Then would follow the afternoon ses- [177]
sion, which on three days appropriately
consisted of a talk on food values and
a cooking demonstration.

Sunday was the final feast of that first week, at the house of the A.D.C. and his wife, the Hon. Vaea and Tuputupu, where European custom of linen and cutlery mingled with the lavish, genial festivity of Tonga.

The average attendance was 35 at these five-day courses for women leaders from different areas.

Courses For Village Instructors

Tonga has much the same difficulty 621
as other countries throughout the world 873
regarding village work, namely, the 575
problem of keeping up interest without 462
extraneous leadership. The morning
sessions were consequently directed to- 177

[P. 27-B]

Out of 111 babies examined in one 744
day recently only two had signs of 743
scabies. Yaws seems to have vanished. 855

A main concern is to persuade Tongan [164]
mothers to keep up breast feeding and
to teach them how to prepare sup- [853]
plementary foods for the weaning [262]
process; it is conjectured that the de- [178]
crease in the mother's diet of healthy
native foods in favour of inferior im-
ported food, such as white bread, has
weakened lactation.

For the outlying islands there are occasional visits by the Child Welfare Nurse as well as the services of the A.M.O.; Ha'apai and Vava'u each has a Tongan-trained nurse who reports to the Child Welfare Nurse.

Church The Pivot Of Village Life

The Church has done incalculable service in Tonga and still remains the pivot of village life. 771

With the inspiring leadership of the Queen, the Royal Family and the Chiefly administrators with their fine standards of propriety and dignity, the Kingdom of Tonga pursues its life of dedication to the welfare of its people, to the true husbandry of its land, and to the character training of its rising generation. 181

In this gay, trustworthy, generous and hospitable community one finds that harmony and gracious living so lacking in a world grown weary through selfishness, greedy ambition and disillusionment.

[P. 28-D]

98: Rowlands U-3 (no date) 1961
OU9 Tonga OU9

SATURDAY, November 12, was an im- 575
portant day for the members of the 462
Tongan Women's Association, "KO E 543
LANGA FONUA 'A E FEFINE TONGA", for
it was the day of their Annual Show.
Anxious glances had been cast at the
sky, for the Show was to be held in the
open air and the weather for some days
had been uncertain. However, although
the day was overcast, no rain fell and all
was well.

Her Majesty Queen Salote Tupou, 643
G.C.V.O., G.B.E., who is President of 575
the Association and who has not missed 462
a Show since the first one was held seven 543
years ago, inspected the exhibits. She
congratulated the women on the steady
improvement in the quality of the work
which had been shown throughout the
years.

The Tongan handwork included mats, 543
trays, baskets of various shapes, dress 285
materials printed with island dyes, 294
Tongan curtains and cushions and
articles made from shells. A new section 286
this year was that for baby baskets. 859
Other items were soap, starch, buttons
and ornaments made from Tongan
materials.

The sewing section had men's coats 543
and shirts, children's clothing, em- 294
broidered dresses, knitted articles, patch-
work quilts and fancy work of various
kinds. The cookery section included 543
cakes, scones, bread, jams and jellies, 262
cordials, puddings and various Tongan
delicacies.

Evidence of the various interests 543
which had been encouraged among the 244
246
231

[P.34-C]

/38 cont./

164 Leprosy occurs only to a slight extent. (82)

164 Since we have no intensive and complete observations from the
175 past it is very difficult to give more details about the change that has taken place in diseases among the Tongans. In the old sources (83) we do find skin deseases (probably especially frambesia), eye diseases, colds, consumption and elephantiasis mentioned as diseases that came to the attention of the early observers. Typical
164 European influences are probably the major /39/ influenza epidemics.
177 The frequent occurrence of pneumonia is partly to be traced back to imported clothing, since the Tongans in all villages now also clothe the upper part of their bodies (shirts, blouses, dresses), and after rainfalls they usually do not change their wet things but let them dry on their bodies. Though pulmonary tuberculosis seems to be an old indigenous disease in Tonga, the low resistance and the apparently increasing number of diseases of the natives can very probably be regarded as a result of the change in their way of life (clothing, partly also food and dwelling) brought about by European
[262] contact. One result of European influence, specifically the somewhat changed diet, (84)

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82. In 1950, for example, nine cases were sent to the leprosy station in Makogai/Fiji (Report of the Medical Department...loc. cit. p. 8).

83. J. Cook, Beschreibung.../Description/ loc, cit. VI, p. 275; J. Wilson, A missionary voyage.../cited in English/ loc. cit. p. 264; Voyage de Dentrecasteaux loc, cit I. p. 320; Voyage pittoresque autour du monde /Picturesque voyage around the world/. Published by Dumont d'Urville. vol. II. Paris 1835. p. 75; Ch. Wilkes, Narrative.../cited in English/. loc. cit. III. p. 33/34.

/39 cont./

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177
262 84. See the chapter "Food" p. 275 ff.; the present very high prices for copra (chief export product) make it possible for every native to buy wheat flour, sugar (both often by the sackful), canned meat, fish and fat, and other food imported from Europe.

could be the frequently observable dental defects of young Tongan men and women, (85)

[752] 85. According to circumstances, defective, aching teeth are not filled but extracted, at any rate on the small islands.

as well as the striking occurrence of partial baldness among middle-aged and older males. (86)

86. This is not yet mentioned in the old sources.

166 It seems noteworthy that venereal diseases are not widespread in Tonga.

177 Summarizing, one may say that in this Archipelago the increase [161] (or intensification) of diseases caused by European influence have had no devastating effect on the population which, in the last 30 years, has doubled and in the preceding decades (with the exception of the influenza epidemic of 1918) remained on approximately the same level.

Health Care

657
744 There is an organized system of health care today in Tonga, the beginnings of which go back to the missions, while now it is exclusively run by the government. All natives have a right to free medical and dental (tooth extraction and filling) treatment financed by the Tongan

657 state. This treatment is at present carried out in the entire Archipelago
744 by a white physician known as "chief medical officer" /cited in English/,
759 by a second (pensioned) white physician who as "medical officer" /cited in English/ has an advisory function, by approximately 20 Tongan assistant physicians ("medical practitioners" /cited in English/) and assistant dentists ("dental practitioners" /cited in English/), by

/83ˉcont./

853 with sweetened condensed milk, in order
177 to "spare" the young mother "and keep
her beautiful."

853 Formerly, mothers nursed their children for a very long time. Today,
178 the average nursing period is eight to nine months, in extreme cases,
14 months. Since, in a long nursing period, the babies cannot get
[744] enough strength from their mother's milk, and the mother herself
should be spared this burden, the Tongan health service tries to
reduce the long nursing period by the mothers' education.--After an
initial liquid, soft diet the children are given the same food as
adults, as soon as they have enough teeth.

846 The woman who has given birth lies on her bed (sleep mats and
tapa, possibly also a European sheet and pillow) about ten days.
Then she gets up and attends to the child herself. Frequently,
however, her mother (or her sister) help her for another month
or so. At first, the woman in childbed generally eats only light
[262] food. For example, she will eat Tongan food such as boiled yams or
(177) boiled chicken, and drink /the milk of/ a coconut warmed in the
earth oven; or else she will live on European food, for example rice
(that has become popular in Tonga) or white bread, zwieback and tea.

854 Commonly, babies are now wrapped in European-type diapers.
177 Women buy them readymade or they will obtain a length of material
and cut it into the required pieces. In some cases they also make
panties of European material or buy them readymade. Often, however,
even bigger babies crawl about without any clothes at all. European
soap is commonly used in caring for the baby, sometimes also baby
856 powder. At approximately nine months the little ones start their
first walking exercises.

851 In accordance with the parents' religion, the child is soon
(within three months) carried to church for baptism, which is fol-

/97 cont./

476 527 574 each one brings a long length of tapa and two mats which they spread
out before the guests and the judges (for example, the district officer
/cited in English/, a few pastors and the presidents of the village
[533] *kautaha*). The brass band plays an accompaniment to this, a group
of young Tongans join in with a song and occasionally a woman will beat
[535] a large bass drum. The women of the *kautaha*, young as well as old,
are quite boisterous; when they bring out the individual pieces they
often dance, sway their hips in time to the music, stride and dance
over the outspread splendors, amidst the applause and laughter of the
spectators. The judges seriously scrutinize and consider. The show
lasts about two hours. Then the drum is beaten, the school bell is
rung, the band plays and the coconut-leaf tables (*pola kai*), (271)
laden with food, are brought and arranged in long rows between the
guests. Whole roast pigs, baked fish, large crabs, corned beef,
[262] [177] [272] /cited in English/ chickens, new yams, bread fruit and bananas from
the earth-oven lie piles up on the tables, crowned with earthenware
plates of "English pudding" /cited in English/ (resembling gingerbread
with a red floury sauce), small cakes and rich cream tortes, in addition
to glass jugs with red and yellow, very sweet lemonade. A prayer is
said, and people begin to eat. During this meal some ten speeches are
made. The district officer or town officer thanks the women for
always following the orders of their president and for preparing the
entire festival so nicely. Other speakers thank the president of this
kautaha and also the women. The president gives out prizes (often in
the form of money) for the best pieces; a *matapule* also delivers a long
speech about freedom in Tonga and obedience to the chiefs. A prayer
ends the feast and people return home while the band still plays and
the hosts fill baskets with leftover food to send to the houses of the

271. Or corrugated metal tables covered with banana leaves.

/97 cont./

476 guests. Everybody is satisfied except one woman of the *kautaha* who
527 did not fulfill her "quota" (a length of tapa and two mats); she
574 spent some time on a visit to another island, and is very sad because
[554] of the bad impression she made on the audience.

476 Like the *kautaha* itself, the festival seems to be a recent
527 institution in which all kinds of old and new customs and traditions
574 mingle. Such festivals probably serve to stimulate achievement and
178 provide public control over work. Among the members of the *kautaha*,
182 they fulfill the need for recognition within the social group and at
621 the same time give large circles of the village community the much
[626] desired opportunity for a happy social life. However, the entire
village community is not included in such a festival. The *kautaha*
[203] invites relatives and friends, members of other *kautaha* and, above
all, the influential men of the village (often with written invitations),
so that the festival group includes approximately one-third or /98/
one-quarter of all adults of a particular settlement. Those who are
not invited feel that it is a matter of courtesy not to attend the
festival.

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574
794

Other festivities (272)

> 272. Aside from the various "picnics" /cited in English/ on the beach or in the bush, organized by young men and girls.

in the villages are nowadays usually connected with the church. Thus,
every Sunday, members of the three Wesleyan churches of Tonga
take turns giving a feast (*faka-afe*), usually mornings and afternoons
following the church services, to which the preachers, the eldest
kinsman of the host, and friends are invited. After a kava circle a
● [262] meal is served (for example, the contents of an earth-oven: a pig,
[272] yams, sweet potatoes, a large salt-water fish, canned meat and manioc
pudding; or white bread with marmelade, cocoa and condensed milk),

527 /98 cont./
574 794 which is often paid for in advance by collections taken in the congregation.
[262] After the meal the guests disperse. The meaning of this
[272] feast is to thank God with food and drink for His blessings, through
[782] the preacher as His intercessor. Undoubtedly this type of festivity
[177] may be traced back to mission activity, but it is now organized by
the Tongan festival. This is shown even more clearly in the large
574 faka-afe on the last day of the year. If, for example, eight preachers
793 of the congregation are to speak on the evening of December 31st, a
794 special banquet is given for each of them on this day. The pastor, the
eight lay preachers and their invited guests-- altogether 20 or more
individuals--go from one banquet to another, soon amply fed and without
appetite, but always intent on eating more and leaving a little
room for the next meal (out of courtesy to the host). In serious and
(537) carefully worded speeches they give thanks to God for having taken care
of the community throughout the year which is coming to an end, and for
always having given it sufficient food; nor do they forget, in these
speeches, to thank their respective hosts at great length.

527 The Christian festivals of Christmas, Easter and Pentecost have
177 not acquired deeper significance within the village community, To be
sure, preparations for Christmas, for example, are considerable: weeks
before, people busily make copra, stock quantities of European food
for selling (bagsful of sugar and flour, six-pound cans of corned beef,
etc.), and dress material, and they sew new gala attire. However, the
holidays then pass without special events; only a few young men get
drunk and beat each other up. Many Tongans even continue working on
(621) holidays, and the only function that unites the community (besides
(533) /99/ church attendance) is the performance in many villages of the
(431) large Wesleyan church choir which, during Holy Night, moves from
house to house, like English carol singers, singing British Christmas
carols /cited in English/ and other Tongan-English songs and, in

331 /142 cont./
342 335 rest periods, make 110 rafters by early afternoon. Then they go back
476 to the building site and around 16 o'clock they each have an earth-
[461] oven meal, prepared in the meantime by their wives and other women,
[264] from the supplies of the "boss"; each man is served a portion (yams,
[262] manioc, kape, bananas, pork, beef) in a traditional coconut-leaf
[415] basket and with it a coconut mug containing fish soup. Thereafter the
[516] work in the village is resumed: five Tongans sitting crosslegged
"plane" the rafters by striking them with the small transverse hatchets
(fale-vatu si'i, toki taha-taha, toki tele) or with the machete, two
natives cut more rafters out of trunks which are brought from the
plantations, and 12 Tongans hold a kava gathering at the site to
"sanction" the building project, while three women prepare the
[264] evening meal. This is eaten when twilight sets in (around 18:30):
[262] everyone present gets three or four fried cakes and highly sweetened
orange-leaf tea in coconut bowls. Around 19 o'clock everybody goes
home.

342 On the second building day, while several younger natives split
313 off and plane more rafters and a kava circle of elders is gathered on
335 the building site, six Tongans and the carpenter go to the plantations
331 (after the fried-cake and orange-leaf-tea breakfast) to get sections
of curved beams (for the narrow sides of the new building). According
to an apparently very old system, these are cut out of coconut palm
342 trunks that have grown with a special curvature. Again the men work
335 with the big axe and the big transverse hatchet. From each palm a
331 curved section of beam is obtained. Around 13 o'clock- after they
[264] have cut up the seventh palm, they grow listless, build a fire, roast
a few green bananas in it, have a snack and then go back to the
village, leaving the remaining five palms of the day's quota for the
342 following day. Around 14:30, /143/ 'ota 'i mango (a refreshing drink
272 of grated green mangoes, grated coconut meat, water and sugar) is
264

415 /149 cont./
177 have long since been replaced by sturdy English metal pots and kettles.
412 Coconut-meat graters (hakalo) can be found in every household, but
178 the natives have fastened to the tripods (tree branches) or to the
simple boards, serrated, flat bar iron instead of shells. On the
262 whole, only a few families still eat banana leaves (or leaves of the
178 breadfruit tree). (395)

395. At feasts, however, banana leaves are still plentifully used.

415 Today, in all households, there are earthenware or tin plates, and
412 cups and mugs for drinking. Many households own table knives, forks,
177 and spoons which, however, are scarcely ever used, since people still
[264] generally eat with their fingers (often directly out of the bowls
415 instead of on plates). Tin and earthenware jugs are common, and often
177 one also sees glasses and glass pitchers for the popular native and
European refreshing drinks.

177 The increase of imported European goods in Tongan households has
352 in some cases increased to a complete adoption of European furnishing
405 which may consist of beds, cupboards, chests of drawers, tables, easy
534 chairs, straight chairs, wall clocks, framed pictures and even pianos,
428 of which some things have been inherited by half-castes. Even in these
177 cases, however, the old Tongan life has usually proved stronger than
178 the compulsion for foreign furnishings, for the owner will continue
516 to sit crosslegged on the floor.

177 Thus in the field of Tongan household equipment it is to be
178 observed that essential elements of the old Tongan furnishings
(seat mats, bed, kava bowl) have been preserved, though in altered
forms, that some ancient cultural assets (headrests, certain baskets,
lamps, bottle gourds, wooden containers) have been lost and are at
present disappearing, and that many European objects have been
adopted, which to the Tongans seems useful of superior to corresponding

/153 cont./

241 way he has to walk from the village, he can no longer devote himself
178 to it as intensely as in the 18th century; secondly, many natives
461 seem to have lost their joy in the work of cultivation. This is the
[177] outcome of European influences, as a result of which much hand work
has apparently become crude or has been lost altogether. The
"liberation" of commoners from the domination of chiefs, as well as
the realization that one is no longer completely dependent on
cultivation, since flour, meat, sugar, etc. can be bought from the
storekeeper on all the islands, may likewise have determined the
present attitude toward plantation work.

241 The majority of Tongans consume their cultivated products by
(262) themselves, within their own families. At a request, or even on their
[431] own initiative, they will sometimes give of their yield--especially
if there has been a good harvest--to other villagers (not only kinfolk),
241 as in old times. On the small islands they do not, as a rule, sell
438 their produce to fellow-villagers, and in the villages of the larger
184 islands, only occasionally. In the larger towns of Nuku'alofa, Neiafu
432 and Pangai, however, some Tongans sell their tubers, etc. to their
countrymen who have no plantings or only small ones (for example,
government and business officials); some natives on the larger
islands have even started planned cultivation for such purposes (for
241 example, "yam farms"). The handing-over of produce to chiefs, which
565 in ancient Tonga was taken for granted, has been given up almost
178 entirely and has been superseded by the annual payment for the lease
427 of land; a native but only seldom on special occasions, will a
651
431 native bring the chief of his district a gift of select tubers. The
241 old, larger harvest festival (inasi), the offering of first fruits
796 to the gods, (406)

178 406. See E. Gifford, Tongan Society / cited in English/ pp. 76, 345.

241 /153 cont./
796 has long since been forgotten; today the Christianized natives render
178 thanks for their harvests in church.

241 The main crops grown in Tonga today are: yams (Dioscorea alata
L.), kapa (Alocasia macrorhiza Schott), sweet potatoes (Ipomea batatas
Poir.), manioc (Manihot dulcis Baillon [?]); taro (Colocasia esulenta
Schott) and bananas (Musa species). The coconut palm (Cocos nucifera
241 L.) is planted to a great extent. In addition, the following [items]
262 are more or less important for the food of the Tongans: breadfruit
tree (Artocarpus altilis), mango tree (Mangifera /154/ indica L.),
maize (Zea Mays L.), sugarcane (Saccharum officinarum L.), pumpkin
(Cucurbita pepo L.), watermelon (Citrullus vulgaris), pineapple (Ananas
comosus), peanut (Arachis hypogaea L.), orange (Citrus species), papaya
(Carica papaya L.), fekika (Eugenia malaccensis L.), vi (Spondias
dulcis Forst.), tava (Pometia pinnata Forst.), ifi (Inocarpus fagiferus),
vaine (Passiflora species), apele Tonga (Annona reticulata L.), 'avoka,
si (Cordyline terminalis), cabbage, onions, tomatoes. (407)

407. See itemization, p. 234 ff.

241 A "gatherer economy" properly speaking does not exist alongside
222 cultivation. The breadfruit tree, the mango tree, tomatoes, oranges,
papaya, fekika, vi, tava, ifi, vaine, apele Tonga, 'avoka and si are
not only planted, but also grow more or less wild in the luxuriant
growth on the plantations, and these the natives, of course, like to
[137] harvest. (They also gather the fruits of the kuava tree Psidium
Guajava L. which was introduced by Europeans and now grows only wild.)

248 They continue to plant the paper mulberry (Broussonetia
249 papyrifera) (for making bast fabric), several pandanus varieties
(for making mats), tobacco and kava (Piper methysticum) for preparing
the kava drink. (408)

408. See p. 144ff.

/154 cont./

241 The following examples from a remote village and from a
433 settlement near a seaport may show the proportion of the various
184 products grown (survey taken April/May 1952):

	Of 97 households engaged in agriculture in 'Uiha/'Uiha (Ha'apai) the following number plant:	Of 42 households engaged in agriculture in Fungamisi/Vava'u the following number plant:
Yams	92	42
kape	83	42
Sweet potatoes	93	13
Manioc	96	34
Taro	93	41
Bananas	89	42
Sugarcane	46	24
Maize	67	14
Watermelons	58	6
Pumpkins	24	13
Pineapples	--	29
Onions	--	3
Cabbage	3	1
Tomatoes	1	1
Peanuts	4	1

241 /155/ Among the chief crops (yams, kape, sweet potatoes, manioc, taro
262 and bananas) which, together with the coconut palm and the breadfruit
137 tree, constitute the staple food of the Tongans, only manioc is a plant
imported during the European period, while all the rest (including
sweet potatoes) were favorite food plants even in ancient Tonga. (409)

409. See J. Cook, Beschreibung...loc. cit. VI. pp. 163, 236/237, 283/284; W. Ellis, An authentic narrative.../cited in English/ I. p. 89.

137 Manioc is mentioned for the first time in Tonga in 1865 by West (410)
244

244 /155 cont./

[137] 410. Th. West, Ten Years..../cited in English/
p. 139.

as a newly introduced plant, and at that time it was obviously of little importance. The conditions for growing of manioc, however, seem to be quite favorable in the Archipelago with respect to climate and soil, so that the plant, the cultivation of which is, moreover, very simple, has since then become widespread. Particularly in the [134] Ha'apai group where, as a result of over-population, the soil has been [262] used to excess and is in part exhausted, it has taken on greater importance in the diet of the natives, although they still give preference if possible to their old crops--for reasons of taste and 241 tradition. For the rest, the gifts of seeds left on the islands over centuries by sailors, researchers and missionaries have had relatively little success. Maize which grows well in Tonga is planted in small amounts, and watermelons and pumpkins have not taken on great importance; pineapple is little planted and then mostly to be sold, and there is still very slight interest in onions, cabbbage, tomatoes and peanuts.

242 In the entire Archipelago--even in the Ha'apai group with its over-population--the Tongans have retained their old system of crop rotation with its accompanying "fallow season": after clearing the bush land they plant yams; the second year kape and/or taro (or sweet potatos or manioc) are planted; beginning with the third year they let the land in question rest (for about three years). (411)

411. Sometimes they also plant manioc the third year and only then let the land lie fallow for several years.

A period of fallow is, however, observed only if yams are part of the crop rotations. For example, they plant taro, manioc or bananas continuously or alternate them, so that some land has not had a rest period 241 for several decades. They are not familiar with fertilization, except

/158 cont./

000 *kape* (less often taro or yams). With these tools they usually work
241 standing. The former, apparently customary, squatting method of work
412 516 (418)
409 is used only by a few very old men. Plows as well as other agri-
177 cultural machines and tractors are used by Tongans under the guidance
242 of whites only on the state experimental farms on Tongatapu and on the
property of Crown Prince Tungi on this island.

121 The following survey may give an insight into present-day agri-
241 culture and show the changes that have taken place.

244 '*ufi* - Yams (*Dioscorea alata* L.)

262 Even in ancient Tonga yams were one of the most important food
178 plants (if not *the* most important crop). (419)
[563] White employees in the Tongan government have so far discovered 80
[137] varieties of yams in the Archipelago; more than 20 different names are
familiar to the average Tongan. Yams are still the favorite tubers on all the islands, though their total cultivation has decreased in Tonga in comparison with the past (see above); in the Ha'apai group yams are today planted to a lesser extent, whereas their cultivation on the larger islands of the Archipelago (for example, Tongatapu) is still quite extensive and in some places probably corresponds to that of the past.

244 Planting time--with certain shifts as a result of the long north-
221 south extension of the Archipelago--extends from June to the first days
of August and from the third week of August up to October-November. As
244 242 a rule, a yam crop is planted only on land that has rested; suitable

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418. See, for example, J. Wilson, A *missionary voyage*.../cited in English/ p. 245.

419. See J. Cook, Beschreibung...*loc. cit.* VI. pp. 163, 237, 283/284; W. Ellis, *An authentic narrative*...I. p. 89.

/159 cont./

244 dig with their hands until they feel the beginning of the tuber, then they continue digging with the huo spade and scoop the earth out with their hands. After they have felt the end of the yam root they fix it with the huo spade held against the opposite side of the dug hole and pull it out with their hands. They remove the earth from the tubers, fill up the holes and take the harvest home to their village. [251] There they store the yams, which can weigh up to 50 pounds, but average from three to ten pounds, in the cook hut, under raised dwellings or in special storage huts. Yams can be stored for a long time, but usually the harvest is consumed in two to three months.

Kape = a plant related to taro (Alocasia macrorhiza Schott)

Kape was planted even in ancient Tonga. (421)

421. See J. Cook, Beschreibung...loc. cit. VI. p. 237.

[262] Its importance for the native has probably remained the same, if it has not increased (especially among the Ha'apai group); on the island of Nomuka, for example, it, together with manioc, is the chief food. The thick, rhizome-like lower stalk is eaten, not the tubers. The Tongans distinguish four main varieties of kape. The plant, which grows considerably larger than taro, is planted in special "kape gardens" or (more often) individually (for example, in yam or sweet-potato fields).

[221] Planting time is from March to September, but especially during the last three months of this period. The natives plant kape on land cleared of weeds (in mixed planting together with yams or sweet
244
412 potatos). With a huo spade they dig holes approximately 15 centimeters deep and in these they plant seedlings which they fetch from a harvested kape field (where the tubers are left lying in the ground), or they place a tuber in the hole. They also plant the seedlings in earth
244 broken up by a simple digging stick (huo langa) (see above). In a yam-

/160 cont./

244 machete (also with the huo spade or the huo lafa-lafa) about a foot above the ground and with this stub they pull the tubers (which are barely 50 centimeters long) out of the ground and dig farther for those they have not pulled out. The tubers must be used up soon, since [251] they keep for only two or three days.

The manioc planted in Tonga for food is not noticeably poisonous. The natives take no precautions. Only the manioc often used nowadays to [824] [287] glue bark cloth is poisonous and is carefully stored away from domestic animals.

talo = Taro (Colocasia esculenta Schott)

[262] Taro is one of the ancient cultivated plants of the Tongans (423).

423. See J. Cook, Beschreibung...loc. cit. VI. p. 237; W. Ellis, An authentic narrative... I. p. 89.

but in the past, as today, it has never had great importance in the diet of the natives; the Tonga Islands are too arid for a extensive taro cultivation. Nevertheless, the natives take the trouble to plant a certain amount of taro. They distinguish between three main varieties.

[221] Planting time is from June to September (seldom to December), but particularly during the months of August and September. The native cut down and burn the weeds on the land where they propose to grow taro. [462] Here too the subsequent "sweeping" of the residue is often done by the women, whereas all the rest of the work is the business of men. Sometimes they also plant taro after the yam harvest in the holes of the harvested tubers or together with the yams. They dig the planting holes for taro approximately 30 centimeters deep with the huo spade and place in them pieces approximately 12, 15 centimeters long) of the rhizome-like taro stalk. The planting holes are then covered with earth in such a way that a depression of some ten centimeters remains, so that in case of rainfall the water can gather in it. A simpler, more

/160 cont./

244 convenient method is to loosen the soil with the huo lafa-lafa (or a European pitchfork), break it up and shove the plant section into it. The distance between plants is about one meter. Every two weeks or so the taro plant is weeded with the huo lafa-lafa. After about a year, often two years or even three to six years, the harvest takes place, at no particular time of year. They cut the stalk with the huo spade close to the ground, then dig out the tuber--around the stub from the outside inward--and carefully feel with their hands to salvage all the tubers. The following are other harvest methods: After cutting the stalk they split the exposed parent tuber with the huo spade by a perpendicular thrust, hoist up the two halves and then dig further with their hands to free the tubers. They also simply tear the plant with the parent [262] tuber out of the ground. During periods of food scarcity the stalk of the plant is sometimes also eaten.

245 hopa, pata, siaine = Bananas (Musa species)

[262] Bananas have been planted in Tonga since ancient times. Cook refers to them as the most important food plant, along with yams. (424)

424. See, for example, J. Cook, Beschreibung... loc. cit. VI. pp. 163, 236, 283.

Today too /162/ bananas belong to the major crop on all the islands of the Archipelago in terms of providing food for the inhabitants. Several varieties of bananas have long been planted on the Archipelago. (425)

425. Cook mentions, for Tongatapu, "fifteen varieties" of the "pisangs" (J. Cook, Beschreibung...loc. cit. VI. p. 236).

[137] It is not clear whether the siaine, which the natives throughout the Archipelago are not fond of eating, is a strain introduced under European influence.

[221] Bananas can be planted all year long. The natives like to plant them individually in yam, kape, taro or manioc "gardens"; but they also lay out special banana plantations, as in the days of Cook. With the

/162 cont./

245 huo spade they dig holes approximately 50 centimeters deep (diameter 25 to 30 centimeters) in which they plant a sprig (root sucker). They fill the plant hole with earth so that a depression remains in which water from rainfalls can accumulate. The distance between plants is about five meters on a flat area. Every three weeks or so they remove the proliferating weeds with the huo lafa-lafa. After six to nine months the first fruits can be harvested.

niu = Coconut Palm (Cocos nucifera L.)

824 178 Since the settlement of the Archipelago the coconut palm has played a very special role in Tongan culture. At the present time in particular, in view of its extraordinarily manifold uses, (426)

426. The following list will show the all-purpose uses of the coconut palm in Tonga; ("old") and ("new") indicate whether or not its utilization was already common in ancient Tonga.

[262] [252] [231] [303] [372] 1. The meat of the nut (kakano 'i niu): eaten in pieces by the natives (old); grated (or squeezed out as coconut milk) for preparing foods and beverages (old); grated to feed chickens and pigs (old), used in pieces to feed pigs (old) and horses (new); used for making copra (new); the oil obtained from the meat is used to make hair oil and body oil (lolo Tonga) (old), to fry in a pan (new) and to burn as fuel in the absence of petroleum imports (old).

[272] [262] [264] 2. The water of the nut (huhu'a oe niu): especially of unripe nuts is drunk by the natives (old); in an unripe nut it is stirred together with the meat and eaten (old); used at meals to wash one's fingers (old).

[415] [372] [524] 3. The hard shell (Endocarpium) of the nut (nge'esi niu): used for making drinking mugs (old); as fuel (old) and (as charcoal) to heat flat irons (new); used as a child's toy su nge'esi niu ("coconut shell shoes," see p. 272 (new).

[283] 4. The husk (Mesocarpium) of the nut (pulu): used to make cord (kafa) for house and boat building, for fastening blades to tools etc. (old); used as cover for hatchets

/163 cont./

245 This impression may be confirmed today for the entire Archipelago. [178] Very likely the present number of coconut palms in Tonga (estimated at over three million) is far greater than it was in the past, since a new type of utilization was added to the old possibilities, namely, copra production. (428)

428. See p. 298 ff.

For this the natives use up 70 to 80 percent of all harvested coconuts.

It is precisely about the cultivation of the so useful coconut palm that the Tongan is the least concerned. He scarcely clears a larger area for systematic planting, but rather, wherever on his land coconut palms would seem desirable for him, he digs small holes (diameter approximately 30 to 40 centimeters) and places in each a completely ripe coconut (in any position). No further care seems to him necessary. Some natives simply throw the nuts they have set aside for planting on the ground and the undemanding plant seems to thrive [221] even then. The "planting" of coconut palms is not restricted to any special time of the year. After seven to eight years the young palm yields the first nuts. Coconut palms, which grow by themselves or with mixed cultures (bananas, kape, taro, manioc), reach an age of over 100 years, though their production of nuts gradually decreases during the last decades of their lives. Since the ripe nuts are gathered only on the ground and one can then usually not determine from which palm they came, one cannot give any figures for Tonga about the annual production [481] of he individual palm. To pick the young "drinking" nuts the natives climb up the coconut palms in the traditional manner: while grasping the trunk they "shinny" up and need no special mechanical aids. For climbing younger palms, however, the bad habit of cutting footholds into the trunk (with the machete) has occasionally been resorted to.

mei = Breadfruit Tree (Artocarpus altilis)

● [262] The breadfruit tree was likewise widespread in ancient Tonga. Cook

/163 cont./

245 262 and Ellis mention it among the essential food plants of the natives. (429)

429. See J. Cook, Beschreibung...loc. cit. VI. pp. 236, 284; W. Ellis, An authentic narrative... I. p. 89.

It is to be assumed that today the importance of the breadfruit for the food of the Tongans corresponds approximately to that of Cook's time. As Cook already recognized, (430)

430. J. Cook, Beschreibung...loc. cit. VI. p. 189.

there is a particular "breadfruit period" in ever year during which this product replaces all other cultivated products in the meals of the Tongans. (431)

431. See p. 277 ff.

245 Breadfruit trees, of which there are eight varieties in Tonga today, grow mostly wild on the islands. The natives, however, who took them into their villages, in accordance with their old custom of planting "bread trees...all around their dwellings" (432)

432. J. Cook, loc. cit. VI. p. 163.

also set them out on their api kolo. They dig a large hole in the ground in proportion to the roots of the tree they are going to plant (for example, one and one-fourth meters deep and one meter in diameter) and plant a young, wild breadfruit tree, a year or more old, which they have fetched from their plantations. As in the case of banana and taro planting, they fill up the hole leaving a slight depression around the [221] trunk for rain water to collect. Planting time is all year long. The [262] first fruits ripen after about three years. The principal harvest time are the months of March to May, and then the breadfruits, which are usually knocked off the trees with long poles, dominate Tongan cooking.

mango = Mango Tree (Mangifera indica L.)

It is not clear whether this tree has been indigenous to Tonga for

/163 cont./

245 a long time. It grows wild in the bush (plantations) and, like the
[221] breadfruit tree, is also planted. Principal harvest time is November-
[262] December. The fruits are much liked by the Tongans.

koane = Maize (Zea mays L.)

[137] This plant, introduced in Tonga by Europeans, seems the most suitable species of grain for this climate, but has attained little importance on the islands.

249 to = Sugarcane (Saccharum officinarum L.)

is an ancient Tongan cultivated plant (433)

433. See J. Cook, Beschreibung...loc. cit. VI. p. 284; W. Ellis, An authentic narrative... I. p. 89.

and thrives on the islands. Since the Tongans, however, do not engage in sugar production and no industry of this type was established in the Archipelago by Europeans, the planting of sugarcane has remained very limited.

244 hina = Pumpkin (Cucurbita pepo L.)

[137] was introduced by Europeans in Tonga. It is planted and also occurs
[262] in the wild state, but is not much liked by the natives.

meleni = Watermelon (Citrullus vulgaris)

[137] likewise came to the Archipelago through European influence. It is usually planted, but is also sometimes found growing wild. The Tongans
[262] like to eat watermelon, but they have not yet cultivated this plant extensively. /165/ On many islands the melons are also destroyed by harmful insects.

faina = Pineapple (Ananas comosus)

[137] This cultivated plant, also introduced by Europeans, has become quite popular, yet it is by no means commonly planted. On the main
[432] islands the natives like to plant pineapple to sell. As a result of the negligence of the natives and the unfavorable location of the plantings (in part far from the villages), the pineapple is often

/165 cont./

244 hindered in its growth by weeds or is eaten by horses and rats.

pinati = Peanut (*Arachis hypogaea* L.)

[137] [262] This was also brought to Tonga by whites. The natives are fond of peanuts, but have so far paid little attention to its cultivation

245 *moli* = Orange, Lemon, Grapefruit, Tangerine (*Citrus* species)

(137) Some of these grew in the Archipelago even in olden times (grapefruit!) (434)

434. See G. Forster, *loc. cit.* V. p. 150;
J. Cook, *Beschreibung*...loc. cit. p. 236.

and were in part introduced by Europeans. These fruits, with the exception of lemons, are very popular among the Tongans. The *moli* are planted in the villages as well as on plantation lands, but there they mostly (136) grow wild. On many islands a fruit fly has caused considerable damage to oranges.

(137) *lesi* = Papaya (*Carica papaya* L.)

was apparently introduced by Europeans, but a long time ago. Today it is widespread in the Archipelago, grows wild, but is also planted in (262) bush land and sometimes in the villages. The natives are fond of the (252) fruit (raw, cooked or steamed in the earth oven).

fekika = Malayan Apple (*Eugenia malaccensis* L.)

has probably been indigenous since ancient Tongan times. (435)

435. Perhaps Ellis means the Malayan apple when he says: "a fruit resembling an apple, which we never saw ripe" /quoted in English/ (W. Ellis, *An authentic narrative*...I. p. 89).

Some of the trees grow wild in the *api 'uta*, some are planted there. (262) The Tongans love the fruit, but today, as in the past, it is not very important in their diet as a whole.

241 *vi* = (*Spondias dulcis* Forst.)

seems to be indigenous in Tonga and largely grows wild on plantation (262) lands. The natives like the sweet fruits.

/165 cont./

245
[137] tava = (Pometia pinnata Forst.) is said to have been brought to Tonga from the Fiji Islands. (436)

436. See Th. West, Ten Years.../cited in English/ p. 133.

[262] The tree occurs in the wild state and is also specially planted. The fruits are popular among the natives.

/166/ ifi = (Inocarpus fagiferus [Park.] Fosb.) occurred already in ancient Tonga. (437)

437. See J. Cook, Beschreibung...loc. cit. VI. p. 284.

[262]
[252] The tree is planted, but also grows wild. The natives cook the fruit and also steam it in the earth-oven, in the traditional way.

241
[137]
[262] vaine = (Passiflora speices) was brought to the Archipelago by Europeans. The fruits of the vaine are generally planted, but also grow wild, and are eaten raw.

[137]
[262] apele Tonga = (Annona reticulata L.) probably also came to Tonga through European influence. The apele Tonga is sometimes planted, mostly grows wild. The fruit is eaten raw.

[262] 'avoka = (?) was apparently likewise introduced in Tonga only a few decades ago. On some of the islands the natives like to plant 'avoka, but it also grows wild. The fruit is eaten raw.

244
si = "Sugar Tree" (Cordyline terminalis) is a plant that was already indigenous in ancient Tonga. (438)

438. See J. Cook, Beschreibung...loc. cit. VI. p. 284.

[252] The si are often planted on the api 'uta, but also in the villages; moreover, they grow wild. The root is used: it is steamed in the earth-oven to obtain the sweet juice (by chewing or pressing). The importance of this plant has probably decreased, since today the natives on all the islands can buy cane sugar cheaply from Fiji.

244
137
Cabbage, Onions and Tomatoes,

/169 cont./

231 According to these figures, pigs and chickens, the domestic
184 animals of ancient Tonga, occur most frequently in 'Uiha and Fungamisi.
The difference with respect to the rest of the domestic animals is
231 more striking in 'Uiha than in Fungamisi. In the latter village, its
184 nearness to the seaport of Neiafu is a factor; the natives probably
432 feel it is more profitable to use their coconuts for copra production
(245) (the copra receiving station of the government is not far from the
village) than to breed pigs more extensively, especially since the
latter can be replaced by corned beef and salted meat which is easily
obtainable in Neiafu. The cattle raised in Fungamisi can be profitably
sold to merchants in Neiafu.

231 In general, there is no intensive animal husbandry in Tonga, such
(272) as the European is accustomed to. Stalls and fenced-in areas are
(262) practically unknown. /170/ Milk, eggs and manure are not used. The
(237) following survey may give an idea of animal husbandry in Tonga:

Pig:

231 This domestic animal of ancient Tonga no longer exists in its
136 original form. Sailors, missionaries, other whites living in Tonga,
as well as members of the Tongan government have, in the course of
time, brought a number of pigs of various strains to Tonga. This
seems to have improved the old Tongan breed of pig which was
probably smaller. A clear racial identification is no longer
possible because of the various crossbreeds.

231 Pork is by no means a daily food; the natives usually slaughter
262 the animals only for festivals and other special occasions (for
574 example, a visit of a member of the royal family), just as was
customary among commoners in the past. (450)

(113) 450. See W. Waldegrave, Extracts from a private journal.../cited in English/ p. 187.

/170 cont./

262 Most chiefs probably eat less pork than they did in former times. (451)

451. Ibid., p. 187.

231 177 262 574 Since Christianization and democratization of the Archipelago has very much reduced the number of large festivals at which huge quantities of pork were consumed. (452)

452. See Th. West, Ten years.../cited in English/ p. 123.

it may be taken for granted that pig breeding as a whole is considerably less than it was in ancient Tonga.

231 The pigs usually run about freely in the villages; one very seldom sees them on a property in an enclosure of coconut palm palisades. They sleep under houses that are elevated or they burrow a pit for this purpose on the property of their owner. [656] In the larger towns of Nuku'alofa, Neiafu and Pangai keeping pigs in the settlements is forbidden by the government. There, only a few natives have pigs which they keep in special enclosures on the plantations or shut them up in large hollow trees. 231 656 Some years ago, keeping pigs in the villages was forbidden (for hygienic reasons). The natives, however, clung so tenaciously to their old system that this regulation endangered pig breeding as a whole, hence it had to be relaxed.

231 The natives feed their pigs the cut-up meat of ripe coconuts, cooked or raw manioc roots, sweet potato leaves and food leftovers; piglets are given chiefly mashed meat of green coconuts. The pigs whose owners keep them on short rations often break into the plantations and there appease their hunger. To judge from old sources, people in former times kept better order in this respect. (Now and then in bush land there are pigs that have become wild.) Their drinking water the animals usually find for themselves (marshy pools, puddles). [232] Since old times the natives have known how to castrate boars (453)

231 /170 cont./

[232] 453. See J. J. Labilladière, Relation du Voyage... /Account of the voyage.../ II. p. 149.

and do so today in order to obtain more tender meat.

Chicken:

231 The--still mostly semi-wild--chickens have approximately the
235 same importance in the economy of the commoners as in older times.
[178]
● [262] They too are not part of the daily food, but constitute the "reserve" for various (festive) occasions /171/ when a pig need not be slaughtered and one can make do with a chicken. Most of the nobles today act in the same way, in contrast to past times. (454)

454. See, for example, W. Waldegrave, Extracts... p. 187.

Chickens are free on village properties and also on the plantations. They usually roost in trees. Thay are quite timid, especially on the plantations. (There, for feeding, they are still sometimes called out of thickets with the conch shell.) Chickens are fed the grated meat of ripe coconuts; but they find a large part of their necessary food by themselves. The natives generally pay little
[262] attention to their eggs which they lay in the bush and in hidden places in the village.

Horse:

231 Horses were repeatedly brought to Tonga by Europeans. But it has
492 only been in the last eight decades that the Tongans, to an increasing
(136) extent, realized how useful these animals can be to bridge the often great distances to the plantations. The natives have become quite skillfull riders, and especially the young often race over the bad roads in the bush land at a bold gallop. Impromptu horse races are
[541] quite popular in some places (for example, on Tongatapu and Vava'u). The natives ride without a saddle or, instead, use an old European sack or a bundle of dried banana leaves. On such pads they frequently

/171 cont./

231
492 transport to the village their tubers, coconuts and other plantation
products in a sack or coconut-leaf basket that lies crosswise in
[493] front of the rider. The owners of European two-wheel carts (455)
can bring heavy loads home with their horses; the harness consists
of a leather collar, a wooden back yoke /?/ /Ruckenbugel/, iron head
harness and lines; a twig serves as a whip. Sometimes they also
[262] slaughter horses which they like to eat occasionally.

231 The Tongan makes horse-raising very comfortable for himself.
There are no stalls or enclosures. He tethers his horse near his
house in the village, so that it can graze, or he ties it to a tree
on the plantation where it can find its food. Water shortage makes
it necessary to lead horses specially to watering places, which is
not always easy. On the plantations horses often cause considerable
damage, especially if they break away. The Tongan does not know how
[492] to look after horses and groom them. He often continues to use
them as riding and pack animals even when they have open wounds on
their backs as a result of improper treatment.

(439) The horses imported mostly from Australia and New Zealand are
said to have decreased after a few generations, probably because of
changed living conditions.

Cow:

(136) This domestic animal repeatedly introduced to Tonga by whites has
to this day not become prevalent or of importance on the islands.
Very few natives keep cattle, which are chiefly thought of as furnishing meat; cows are not milked. The animals are tethered on a rope
on the plantations, so that they can find their food within a circumscribed area. Sometimes the natives lead them to a watering place,
but they also leave them a few days or even weeks in one place,

[177] 455. In the various villages, some one-eighth
[422] or one-fourth of the households own such carts.

/171 cont./

231 without bothering about them, so that some cattle were near /172/
death from thirst or actually died. On Nomuka there is a group
[476] (kautaha) of Tongans who jointly own a herd of some 20 cattle that
are left on the usually unoccupied neighboring island of Nomuka Iki
and live there half-wild without any particular care; if the men
want to slaughter one of these animals they usually shoot it.

Goat:

In goats, too, which were brought to the Archipelago, the Tongans
so far have not shown much more interest. The natives who own such
animals tether them on their property or tie them to a tree on their
[262] plantations, so that they can find their own food. Only the meat of
goats is used.

Duck:

231 A few natives on some of the islands keep ducks, which have also
235 been introduced in Tonga by Europeans. Aside from the slight
[136] interest of the Tongans for these animals in general, it is the lack
of running and still fresh water which very much prevents a widespread
occurrence of ducks in the Archipelago.

Dog:

231 The number of Tongans who regard a dog as their property and give
it food is small. Nevertheless, there are dogs in all villages, the
majority of which are very skinny, neglected mixtures of various
breeds. They usually have to seek their own food, and they suffer,
especially in times of drought. The villagers, most of whom treat
their dogs brutally, nevertheless like to use them to keep watch over
[262] straying pigs. Seldom are better fed dogs slaughtered to be eaten
(as they were even a century and a half ago). (465)

456. See J. Martin, loc. cit. I. p. 265.

/172 cont./

Cat:

231 [136] Cats, which were likewise brought to the Archipelago by whites,
are kept only now and then by natives to protect their supplies from
mice. In the bush, wild cats occur now and then.

[178] To sum up, we may say about animal husbandry that, as in old
times, there is scarcely a Tongan household without domestic
animals and that, as in those days, the pig and the chicken are the
most important domestic animals for the natives. On the other hand,
of course, the limited size of the islands, the small size of the
individual property and the lack of water are reasons why no more
extensive animal-breeding, especially of cattle, arose. On the other
231 hand, the reason why the change from their former circumstances is
178 but slight may be found in the Tongans themselves, who apparently
feel no necessity to alter their traditional economic system which
is quite sufficient for their needs; in their raising of domestic
animals--which might almost be called extensive--/173/ they leave a
great deal to chance and shy away from the trouble which profitable
pig and chicken raising, and especially systematic cattle raising
(which is to a small extent possible even on 8¼ acres) entails. The
[262] Tongans do not recognize the advantage of a better meat supply and the
[272] use of manure, or else these advantages do not seem to them worth-
[237] while, and the prospect of milk is not at all tempting for most
of them, (457)
just as they do not care for eggs.

[439] 457. Imported, sweetened condensed milk has had a limited distribution in the Archipelago, which is probably due to the fact that the Tongans are very fond of sweets and that, in their eyes, this canned milk is very different from fresh cow's milk.

/182 cont./ As in all
226 areas of daily life, the commoners here too enjoy greater freedom than
[178 they did in the past. Fishing has largely remained a secondary
[565 occupation (secondary to farming),, though there are some ardent fish-
226 ermen among the natives, a few of whom (478)
463

478. See "the landless ones," p. 178.

pursue it as their main occupation. However, there has never been a definite specialization or systematization. /183/ One does not meet any Tongans who carry on fishing as a regular business; rather, the natives go about it in their traditional casual-calm way. (479)

479. Although, in the Ha'apai group where fish are plentiful, one can easily fish "from one's front door," as it were, the natives do not by any means make regular use of this possibility. Nor is it rare for natives to return from fishing on the high seas without fish because they have already consumed them on the way.

226 The strange situation that the Tonga Islands, some of whose waters have
177 a great abundance of fish, today import rather large quantities of
439 canned fish, (480)
556
181

480. In 1951, for example, 15,912 T. (C.Z.F.)-worth from South Africa, Great Britain, Norway, New Zealand and Australia.

may be explained by the fact that the Tongans are fond of fish prepared in the European way; largely to blame for this development, however, are the commercial interests of Europeans, the present "wealth" of the natives as a result of their copra production, as well as the laziness of the Tongans.

d) Food and Luxuries

Food

262 The ancient plants cultivated in Tonga (yams, kape, sweet potatoes, taro, bananas), together with various ancient indigenous tree fruits (especially coconuts and bread fruit) and fish (and mussels, octopus,

/183 cont./

262 seaweed, crabs), pigs and chickens (481) still make up the basic food of the natives of these islands. European influences, however, in the food sector, are of considerable and
262 growing importance. For approximately one hundred years, there has
177 been increasing interest in manioc which was introduced by whites, and for a few decades canned meat and fish, foods prepared with flour, white bread, zwieback and sugar have become very popular supplementary foods among the Tongans of all the islands, while the consumption of salted meat, condensed milk, marmelade, rice, tea, coffee and cocoa has been limited more to the seaports and the villages adjacent to them. Among European foods, canned corned beef is by far in the lead, and is a favorite supplement to meals which, according to our ideas, are very simply prepared and often consist exclusively of carbohydrates.

262 The following tables show 353 everyday meals consumed on certain
128 fixed days in April 1952 in 92 households in the village of 'Uiha, and
184 173 everyday meals consumed on certain fixed days in May 1952 in 37 households in the village of Fungamisi. 'Uiha is a typical village of the smaller islands, while Fungamisi may be cited as an example of a settlement near a seaport.

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481. See J. Martin, loc. cit. II. p. 282.

[ʻUiha]
[Fungamisi]

/184/

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Meal consisting of	Number of meals in	
	'Uiha	Fungamisi
Breadfruit, b.(482)	40	28
Breadfruit, st.(482)	29	8
Breadfruit, r.(482)	1	5
Breadfruit, r., salted meat		1
Breadfruit, r., bread, butter, fat, tea, sugar		1
Breadfruit, b., seaweed	2	
Breadfruit, b., mussels		2
Breadfruit, b., fish	21	2
Breadfruit, b., fish, seaweed	1	
Breadfruit, b., seaweed, squid	1	
Breadfruit, b., taro leaves	4	
Breadfruit, b., maize	1	
Breadfruit, b., chicken		1
Breadfruit, b., pork	3	3
Breadfruit, b., corned beef	10	2
Breadfruit, b., taro leaves corned beef	1	
Breadfruit, b., corned-beef-soup	3	1

Meal consisting of	Number of meals in	
	'Uiha	Fungamisi
Breadfruit. b., roast beef	1	1
Breadfruit, b., roast beef tea	1	
Breadfruit, b., roast beef, bread, butter, marmalade, tea, sugar, milk		1
Breadfruit, b., corned beef, bread, butter, tea, sugar		1
Breadfruit, b., salted meat	1	10
Breadfruit, b., salted meat, vi leaves		1
Breadfruit, b., salted meat, taro leaves		1
Breadfruit, b., canned fish		6
Breadfruit, b., tea		2
Breadfruit, b., coffee	1	
Breadfruit, b., bread, marmalade, tea		2
Breadfruit, b., bread, butter, marmalade, tea sugar		3

482. The abbreviations signify: b.= boiled in pots; st.= stewed in earth-oven; r.= roasted in the fire.

262
252
177
184

/185 cont./

Meal consisting of	Number of meals in	
	'Uiha	Fungamisi
Breadfruit, b., mussels, bread, butter, coffee, sugar		1
Breadfruit, b., flour porridge	1	
Breadfruit, b., flour dumplings	1	
Breadfruit, r., coconut oil, sugar-"pudding"	1	2
Breadfruit, st., fish	11	1
Breadfruit, st., fish, zwieback, bread, tea	1	
Breadfruit, st., mussels		1
Breadfruit,st., fish, seaweed	1	
Breadfruit, st., fish, taro leaves	1	
Breadfruit, st., taro leaves, ifi-fruit	2	
Breadfruit, st., taro leaves, salted meat		1
Breadfruit, st., meat of ripe coconuts	3	
Breadfruit, st., Carica papaya	2	
Breadfruit, st., pork	7	

Meal consisting of	Number of meals in	
	'Uiha	Fungamisi
Breadfruit, b. bread, butter, coffee, sugar, oranges		1
Breadfruit, st., pork, fish	2	
Breadfruit, st., pork, bread	1	
Breadfruit, st., corned beef	3	
Breadfruit, st., corned-beef-soup	3	
Breadfruit, st., roast beef		2
Breadfruit, st., corned beef, fish	3	1
Breadfruit, st., canned fish		1
Breadfruit, st., corned beef, canned fish	1	1
Breadfruit, st., corned beef, taro leaves	1	
Breadfruit, st., salted meat		4
Breadfruit, st., salted meat, taro leaves		1
Yams, b.	5	5
Yams, st.	1	1
Yams, b., fish	5	
Yams, b., meat of ripe coconuts	1	
Yams, b., Chicken	1	1

[ʻUiha]
[Fungamisi]

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252
177
184

Meal consisting of	Number of meals in	
	'Uiha	Fungamisi
Yams, b., corned beef	1	
Yams, b., corned-beef-soup		1
Yams, b., roast beef	1	
Yams, b., salted meat		2
Yams, b., salted meat, taro leaves		1
Yams, b., flour dumplings	1	
Yams, b., coffee	1	
Yams, st., mussels		2
Yams, st., Carica papaya	1	
Yams, st., chicken	1	
Yams, st., corned beef		1
Bananas (*hopa*), b.	2	
Bananas (*pata*), b.	1	
Bananas (*siaine*), b.	2	
Bananas (*siaine* and *pata*), b.	1	
Bananas (*hopa*), b., fish	2	
Bananas (*hopa*), b., corned beef	1	
Bananas (*hopa*), b., fried cakes	1	
Yams, b., pork	1	3
Bananas (*siaine*), b., fish	1	
Bananas (*siaine*), b., tea	1	
Manioc, b.	4	
Manioc, b., fish	2	
Manioc, b., pork	1	
Manioc, st., fish, pork	1	
Manioc, b., corned beef	2	
Taro, b.	1	2
Taro, st.	1	
Taro, b., fish	1	
Taro, b., octopus		2
Taro, b., bread, butter, marmalade, tea, sugar, condensed milk		3
Breadfruit, b., yams, b., *vai siaine*	11	
Breadfruit, st., yams, st.		1
Breadfruit, b., yams, b., seaweed	1	
Breadfruit, b., yams, b., taro leaves	1	

[ʻUiha]
[Fungamisi]

262
252
177
184

Meal consisting of	Number of meals in		Meal consisting of	Number of meals in	
	'Uiha	Fungamisi		'Uiha	Fungamisi
Breadfruit, b., Yams, b., fish	7		Breadfruit, st., Yams, st., salted meat	1	
Breadfruit, b., Yams, b., fish, fried cakes, tea	3		Breadfruit, b., Bananas, b. (*hopa*)	5	
Breadfruit, b., Yams, b., corned beef	5		Breadfruit, b., Bananas, b. (*hopa*), taro leaves	1	
Breadfruit, b., Yams, b., corned beef, sausage		1	Breadfruit, b., Bananas, b. (*hopa*), fish	2	
Breadfruit, b., Yams, b., salted meat, canned fish		1	Breadfruit, b., Bananas, b. (*pata*)	6	
Breadfruit, st., Yams, st., fish	4		Breadfruit, b., Bananas, b. (*pata*), fish	2	
Breadfruit, st., Yams, st., fish squid		1	Breadfruit, b., Bananas, b. (*pata*), chicken	1	
Breadfruit, st., Yams, st., *ifi*-fruit	1		Breadfruit, b., Bananas, b. (*pata*), corned beef	1	
Breadfruit, st., Yams, st., Carica papaya	1		Breadfruit, b., Bananas, b. (*hopa*, *pata*)	1	
Breadfruit, st., Yams, st., chicken	1		Breadfruit, b., Bananas, b. (*hopa*, *pata*), fish	1	
Breadfruit, st., Yams, st. pork	2		Breadfruit, b., Bananas, st. (*siaine*)	2	

/187 cont./

262
252
177
184

Meal consisting of	Number of meals in	
	'Uiha	Fungamisi
Breadfruit, st., Yams, st., corned beef	2	
/188/ Breadfruit b., Manioc, b.	6	
Breadfruit, b. Manioc, b., fish	2	
Breadfruit, st., Manioc, st., pork	3	
Breadfruit, st., manioc pudding	1	
Breadfruit, st., Taro, st.	2	
Breadfruit, st., Taro, st., fish	2	
Breadfruit, b., Yams, b., Taro, b., salted meat, sausage		1
Breadfruit, b., Yams, b., Bananas (pata), b.	1	
Breadfruit, b. Yams, b., Bananas (pata), b., fish	1	
Breadfruit, b., Manioc, b., Taro, b.	1	
Breadfruit, b., Manioc, b., Taro, b., fish	1	

Meal consisting of	Number of meals in	
	'Uiha	Fungamisi
Breadfruit, b., Bananas b. (siaine), taro leaves	1	
Yams, b., Bananas, b. (hopa), corned beef	1	
Yams, b., Manioc, b.	1	
Yams, b., Manioc, b., fish, mussels	1	
Yams, b. Bananas, b. (pata) Manioc, b.	2	
Yams, b., Bananas, b. (pata), Manioc, b., taro leaves	1	
Yams, b., Bananas, b. (hopa), Taro, b.	1	
Yams, b., Manioc, b., taro leaves	2	
Yams, st., Manioc, st., Taro, st., taro leaves	1	
Bananas, st. (pata), Manioc, st.	1	
Bananas, st. (hopa) Taro, st.	1	
Manioc, b., Taro, b.	1	

/188 cont./

262
252
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184

Meal consisting of	Number of meals in	
	'Uiha	Fungamisi
Breadfruit, b., Manioc, b., Taro, b., corned beef	1	
Yams, b., Bananas (pata) b., fish	2	
/189/ Rice, b.	1	
Flour dumplings (topai)	21	
Fried cakes (keke), tea	2	1
Bread	1	
Bread, tea (sugar)	1	4
Bread, corned beef	1	
Bread, corned beef, tea		1
Bread, butter, tea		1
Bread, butter, tea, sugar		13
Bread, butter, tea, condensed milk, (sugar)		8
Bread, butter, tea, sugar, Carica papaya		1
Manioc, st., Taro, st.	1	
ifi-fruit, st., flour dumplings	1	
/189/ Bread, butter, tea, sugar, 'avoka		2
Bread, banana cake, butter, tea, sugar		2
Bread, butter, marmalade, tea		2
Bread, butter, marmalade, tea, condensed milk, (sugar)		6
Bread, butter, marmalade, corned beef, tea, condensed milk, sugar		1
Bread, butter, cocoa made with water	1	3
Bread, butter, coffee	1	
Zwieback, tea	1	

/189 cont./

262 This list shows that 228 out of 353 'Uiha meals consisted
184 exclusively of products that were available even in ancient Tonga,
while 69 of the 173 Fungamisi meals were prepared on a purely "ancient
Tongan basis." The influence of the seaport of Neiafu on the village
of Fungamisi is recognizable; the example of the European and half-caste households there, as well as abundant supplies in the shops of
that town clearly influence the standard of living of the neighboring
262 settlement. The proportion of salted meat, corned beef, white bread,
184 butter, tea, etc., is noticeable. The "European ingredients" (483)
of 'Uiha and Fungamisi meals are usually no more than "supplementary."
/190/ Manioc, however, appears as a basic food, and in Fungamisi
there are a few families who have already gone over to regular bread
262 meals. The very large proportion of breadfruit is due to the fact
[221] that the months of April/May are the main harvest time for it.

262 Basically, the meals for Sundays, holidays and feasts are the
264 same as everyday meals; they differ only in quantity and in richer
ingredients (and sometimes more complicated preparation). As examples
[527] we list 12 Sunday meals in the village of 'Uiha (April 1952) and
[574] four gala meals (faka afe) (484)
on Nomuka (December 1951):

177 483. "European ingredients" include all foods that
(244) were not available in ancient Tonga, but reached
(432) the Archipelago only as a result of European
influences and are procured today by planting
(for example, manioc, see pp. 231-232, 240-241) or by
purchase from shopkeepers (for example, corned
beef, roast beef, salted meat, sugar, flour,
white bread, zwieback, tea, cocoa, coffee).

484. See p. 142-143.

['Uiha]
[Nomuka]

/190 cont./

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Sunday Meal ('Uiha) consisting of	Sunday Meal ('Uiha) consisting of	Sunday Meal ('Uiha) consisting of
Breadfruit, b., fish	Breadfruit, st. Yams, st. Carica papaya corned beef	Breadfruit, st. Yams, st. Taro, st. Carica papaya salted meat
Breadfruit, b. pork	Breadfruit, st. Yams, st. Manioc, st. taro leaves fish corned beef	Breadfruit, st. Manioc, st.
Breadfruit, st. fish octopus	Breadfruit, st. Yams, st. Manioc, st. fish	Breadfruit, st. Manioc, st. fish
Breadfruit, st. Yams, st. sweet potato leaves corned beef fish	Breadfruit, st. Yams, st. Manioc, st. fish	Yams, st. Manioc, st. fish
Breadfruit, b., Yams, b., sweet potato leaves corned beef		

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[272]

Gala Meal(*faka afe*) (Nomuka) consisting of	Gala Meal(*faka afe*) (Nomuka) consisting of
Yams, st. *kape*, st. Bananas (*hopa*), st. Tonga pudding(*faikakai*) pork chicken fish	Yams, st. Sweet potatoes, st. *kape*, st. bananas (*siaine*) English pudding pork chicken duck
Yams, st. Sweet potatoes, st. Bananas (*hopa*), st. watermelon English pudding pork fish corned beef red lemonade	Fried cakes Zwieback with marmalade Cocoa made with water, added condensed milk and sugar red lemonade

/198 cont./

264 574 result of the Christianization and democratization of the Archipelago,
178 and with them have disappeared the large gala meals which, in old
261 times, could cause the danger of food shortage and hardship. (516)

516. See J. Martin, loc. cit. II. p. 214/215.

262 Seen as a whole, strong European influences are to be noted in
177 the food sector, (517)

178 517. European foods even play a special role in festive customs.

which have led to a coexistence and merging of old and new and also to a loss of old traditions. Yet the main foundation of the ancient Tongan system of nutrition has been preserved: Though some imported foods have gained great importance, they have not become the chief foods, but are merely additions to the ancient Tongan fare. The traditional basic foods have not been replaced. Rather, the Tongans are largely meeting their own food needs through cultivation (especially of old indigenous plants), fishing (mostly with traditional methods) and domestic animal raising (with predominantly ancient Tongan domestic animals), and if today the islands should fall back into isolation, the entire population could go on living without particular readjustment and without hardship, solely from the products of their own land. (518)

[146) 518. Tongan everyday food is astonishingly poor in proteins and vitamins, according to European ideas. Yet the natives have been nourishing themselves in this way for many centuries, and are on the whole tall, well built and mostly plump figures.

Luxuries

276
261 If, by the term "luxury," we mean everything that is eaten and
262 drunk merely because it is pleasant, regardless of its nutritional
272 273 value, we must mention under this heading for Tonga kava, tobacco,

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/198 cont./

chewing gum and candy, tea, coffee and cocoa, and finally alcoholic beverages.

276
574
Of all these luxuries, kava alono belongs to ancient Tonga. Since kava drinking for most Tongans is a purely social event, it was already discussed in connection with the description of village life. (519)

519. See p. 144 ff.

[178] It merits repetition to say that today kava dominates all social life on the islands of the Archipelago at least as much as, if not more then in the past.

276
[797]
/199/ For more than a century the Tongans have been familiar with the use of tobacco, (520)

520. See Ch. Wilkes, Narrative.../cited in English/ III. p. 26.

and though the missionaries at first fought bitterly against this "vice,"

521. Ibid., p. 26/27; O. W. Brierly, Brief geographical sketch.../cited in English/ p. 117.

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439
today by far the majority of adult natives of both sexes smoke. The younger Tongan men and women and those of middle age smoke imported English tobacco almost exclusively. They have become quite choosey about its quality, since several different brands are imported. Using a two-ounce packet of tobacco, they generally roll 60 (thicker) or 90 (thinner) cigarettes (using cigarette papers that have likewise been imported). Girls and women are just as skilfull as the men in rolling the cigarettes freehand. Imported cigarettes, which are obtainable in sufficient quantities and are not much more expensive than the "prime cost" of the self-rolled ones, are seldom smoked.

276
887
178
Old people (men as well as women), however, still prefer the

/199 cont./

276 tobacco that has for some times been cultivated on many of the native
887 plantations in Tonga, and from this, together with dried pieces of
178 banana leaves (hulu ifi tapaka), they smoke the "suluka," the size of
which is between a cigarette and a cigar.

They prefer to cut banana leaves (usually of the hopa variety) early in the morning when they are fresh with dew; if the leaves are too dry that are moistened for a moment with fresh water. After the leaves have been pressed (for example, under a bed) and dried, they are cut in rectangular pieces. On each of these is placed a small quantity of tobacco, dried and cut fine, and the whole is rolled into a conical shape. The leaf is held in this position while the tip of the "suluka" is folded over and then bitten off just before it is smoked.

The natives usually take only a few puffs of the "suluka"; it often goes out, whereupon they stick it behind one ear and, after some time, often hours later, they relight it and continue smoking. The tobacco is strong. Old Tongans who are used to this weed, generally refuse the tobacco and cigarettes of whites.

276 The natives usually light their cigarettes as well as the "suluka"
[372] with glowing coconut husks with which they traditionally keep the
fire going and which they like to take along when they go to their
plantations.

(177) Very few Tongans smoke European pipes.

Tobacco chewing is not very widespread; apparently only the indigenous tobacco is chewed.

261 /200/ Some boys, girls, men and women today are fond of chewing
177 gum, which probably became known in the Archipelago through the
American troops stationed on Tongatapu during the last war.

● 262 Many natives of both sexes and various ages are fond of sucking
432

/200 cont./

262 sour and sweet hard candies, which, like chewing gum, may be obtained
432 from shopkeepers on most of the islands.

272 Tea, coffee and cocoa, though they may be bought today on many
432 islands of the Archipelago, have not attained great importance for
the Tongans. (522)

522. See chapter on "Food," p. 275 ff.

273 The natives cannot easily obtain alcoholic beverages (kava
[439] papalangi). Limited amounts are probably imported, but only a few
[656] Tongans have the required permit from the minister of police that
entitles them to one bottle of spirits per month. On the black
market the natives obtain only very small quantities of alcohol.
[177] Various Tongans have become experienced in making alcoholic beverages
(using, for example, sugar [or artificial honey], yeast and pineapple),
especially through their contact with foreign troops on Tongatapu
[687] during the second World War. But this illegal production that can
be punished by imprisonment has heretofore been proportionately small,
chiefly around Christmas time, and of late it has become insignificant.

276 Thus, European influences in the area of luxuries have brought
177 about a certain change, chiefly through the importation of tobacco.
But, although most Tongans enjoy smoking, they have not become so
addicted to tobacco that they are actually dependent on it; (523)

523. For example, on the small islands, shopkeepers often run out of tobacco, and the Tongans who then lack smoking supplies usually bear the time they must wait for a new shipment with equanimity.

this is, of course, also not the case with the other new and less important luxuries.

C. Copra Production

245
177 Copra production (524)

S /296 cont./
T
177 canned goods have even been introduced into their ceremonial life.
178 Food preparation shows many traditional features--as among the Tongans
[262] and perhaps even more so--along with certain innovations (for example
[252] iron cooking pots), and the typical method of eating with one's
[415]
[264] fingers has also been retained.--The conservative Samoans have probably
not felt the need for further changes in their tried-and-true methods
in areas relating to their means of subsistence, which, moreover, have
not been influenced very much by Europeans and indeed would be difficult
to change if only because of geographic conditions.
S
T
276 In both Archipelagos tobacco, a luxury imported by Europeans, has
177 become quite important; the natives grow it themselves to a large
249 extent and also buy it from shopkeepers.
432
S
T /297/ As in Tonga, copra production in Samoa has become a very
245 common occupation, and to this has been added cocoa-growing. However,
S here too these new activities have not brought about much change; there
[434] has been no profit- mania, and the old social system has proved strong
[596] enough to withstand these influences, for the matai take over the
proceeds and use them on behalf of the entire family.
S
T The typical women's handwork of tapa-making and plaiting lives
462 on in Samoa--at least with respect to quality--as it does in Tonga.
178 Division of labor according to sex has also scarcely changed on the
463 Samoa Islands; however, in contrast to the development in the Tonga
Archipelago, the social division of labor (titles-untitles) has still
S
T been largely upheld. The daily routine has remained basically the
512 same in both island groups, and has been influenced only to a certain
178 extent by new duties and tasks. Land and sea traffic has changed very
S
T much in Samoa, as in Tonga, but it is noteworthy that the Samoans build
489 and use the simple outriggers (paopao) and in addition rather large
178 numbers of the more complicated bonito-boats (va'aalo).
S
[501]

439 Many, though not all, of these imports are of little nutritive value
262 and may be actually detrimental to the health of the people. In
262 Tonga, for example, a recent French survey of the capital city
178 revealed a dramatic increase in the consumption of high energy
273 foods, such as sugar, alcohol, and highly processed foods. As a
178 result, the French study concluded, there was a rapid rise in the
164 incidence of dental caries within the Tongan population, accompanied
146 by a general decrease in the overall nutritional status, especially
among preschool children (Hansell 1962).

439 This is not to imply that all food imports are of little
262 nutritive value or that Tonga should strive to achieve self-
000 sufficiency in food production. However, it is clear that some
form of control, governing the quantity and quality of certain
foods, should be considered. Such action should be aimed at
improving the quality of imports, including flour, meats, and
grains. Consideration of the nutritional status of urban populations is advisable in view of the rapid expansion of this population segment and the increasing utilization of imported foodstuffs.

178 The economic shift of the populace is another major cause
369 of urbanization. This shift has been most notable in the agricul-
178 tural sector of Tonga's national economic structure. The effects
369 upon agriculture are felt in two significant areas. As alternatives
241 to agriculture are found in cash employment in urban areas, the
[439] cash income of the people involved increases and imported foods,
[262] often seen as status symbols, are sought as such. Therefore, the
per capita urban demand for indigenous foodstuffs tends to decline,

178 369 if imported foods are available and cash is on hand with which to
241 purchase them (Horine 1967, pp. 43-46). In addition, as the pos-
439 sibilities of cash employment in urban areas increases, the popula-
[262] tion is less inclined to work their traditional urban gardens.
Rather, they prefer to raise their visible socioeconomic status
through the use of imports. This subsequently reduces further the
amount of foodstuffs produced in the nation.

241 In rural areas of Tonga, major portions of the remaining
178 agricultural sector are changing to a cash orientation. The govern-
241 ment requires a substantial portion of a farm holding to produce
439 export products (or at least be planted in such), principally coco-
245 nuts or bananas. However, many farm plots are totally devoted to
the production of crops for export (Kennedy 1961, p. 61). Major
cash crops include copra and sweet banana, which together account
241 for 80 percent of Tonga's exports. As is the case in urban areas,
178 as the cash income of farmers increases, the incentive for producing
agricultural food staples decreases. This situation will probably
continue as long as market prices for Tongan exports remain high and
the status associated with material products, including imported
foodstuffs, exists.

121 Therefore, one may hypothesize that as Tonga's population continues to increase, urbanization will increase, agricultural production of foodstuffs per person will decrease, the dependency being placed upon food imports will continue to grow, and the nutritional status of particularly urban populations will probably decline.

125 survey sample were examined within a 4-week period. Standards for physical measurements and hair sampling were observed in that each child was measured on the same anatomical site and hair samples were taken from the same scalp location[1] (note procedures in Appendix C). A Efforts were also made to insure the sample was a cross-section of Tongan population which involved no particular religious or economic group in excess.[2] Therefore, it was fully recognized from the onset of this research that in surveys of an entire population, as well as specific groups within the population, one should make every possible effort to gain results which are representative and unbiased. The sampling took into account specific cultural and occupational characteristics of the area and the population.

After the individual sample subject was selected, every effort was made to gain complete information for that subject. Of the total sample, a research sampling of 265 Tongan preschoolers were selected from rural and urban areas throughout Tonga. In the selection of each subject, care was taken that only one per family was included in the sample. Upon initial inspection, if the child was

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[121] [262] [1] The possibility of such dietary variations as mineral consumption between rural and urban children was recognized as a factor which could result in differences in the growth profile between the two groups. Research pertaining to such cause and effect was not undertaken within the scope of the present endeavor. However, one possibility for future research is seen in the role of zinc in relation to the large consumption of wheat bread in urban areas.

[795] [184] [145] [2] The most obvious case was that of Mormon (Latter Day Saints) families. Without exception, children in these households appeared better cared for in terms of physical development and general conditioning. This distinction was noted early in the sampling process and was compensated for.

A[See Category 125, p. 183-188—Analyst.]

241
245 most important being coconut. The coconut, though representing the
majority of cash-earning export production, is also an important
[262] domestic food source. Coconut flesh and cream are integral parts of
[824] practically every Tongan meal. In addition, products of the coconut
palm are also important to other aspects of Tongan life, from house
construction to production of a shopping basket for marketing.

241
249 A second important supplementary agricultural crop is kava.
276 The roots of this plant are dried, pulverized, and mixed with water
to produce what could be called the Tongan national beverage.
Although the taste is somewhat alien to a non-Tongan palate, the
only observed immediate physical effect of this drink was a slight
[142] narcotic quality.[1] Prolonged consumption, however, was noted to
cause a darkening and scaling of the skin, evidenced in some older
Tongans.

241 A third supplementary plant is the papaya, which is only
245 infrequently cultivated for its fruit, and usually grows totally
262 unaided. While foreigners find the papaya to be a welcome addition
to the principally tuber diet of the Tongan, it is, strangely, a
262 native food viewed with low status. Few interviewees admitted to
231 consuming papaya regularly, and frequently described the fruit as
being pig food.

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[1] On several occasions young Tongan men, having consumed a large quantity of the kava drink, or "Tongan beer" as it is commonly referred to, were observed to be thoroughly intoxicated. However, experience indicated that enormous quantities of the drink are necessary to produce anything more serious than a mild headache. From all indications, the intoxicating effect is quite simply psychological, rather than physiological, although all Tongans questioned will attest to the contrary.

241 Cash cropping (to be discussed in greater depth later in this
chapter) in the bush fallow system can be divided into long- and
241 short-term crops. The principal short-term crops include bananas and
245 a variety of melons, plus miscellaneous plants. Bananas, as
[244] described above, may be interplanted in the normal planting cycle.
Usually, banana cropping is continued for several years before a
245 plot is returned to fallow. Production from this crop is allocated
[262] to household consumption, or sold in local markets. Surveys encoun-
[438] tered only an occasional farmer producing bananas for the international
[439] export market. Subsequent interviews indicated several limitations
on this type of production, such as plant disease and inadequate
shipping facilities.

The most severe diseases affecting banana production are black leaf streak, bunchy top, and banana scab moth, the most serious being black leaf streak. Decreases in the production of exportable bananas since 1967, equaling 83 percent of the 1967 crop, have been attributed largely to this particular disease. Leaf streak is a fungal disease, characterized by a dark streaked appearance on the plant leaf (Plate 2).A The disease, by decreasing the total leaf area of the plant, thereby reduces the plant's photosynthetic capacity. The results are smaller fruit, smaller numbers of fruit per bunch, or frequently the complete absence of fruit.

Banana bunchy top is a viral disease, also reducing the photosynthetic area of the plant. It is characterized in the field by the insequential order in which the plant leaves die and the bunched appearance of remaining leaves (Plate 3, p. 74).B Bunchy top

A, B [Because of poor quality of reproductions in the original, plates have not been marked for a Category--Analyst.]

[TEXT CONTINUED ON PAGE 75]

241 An
245 aerial analysis of Tongatapu, and a subsequent comparison with
171 Western Samoa, revealed a marked difference in planting and cultivation. Portions of Samoa reveal an orderly planting configuration,
241 suggesting more devoted commercial production of coconuts. Tongan
245 farmers, when questioned about the uneven planting, noted that they can produce much larger tuber crop yields if sunlight is not blocked
245 by closely planted palms. However, loosely defined and enforced Tongan laws requiring palm cultivation, plus the desire for a cash income, have motivated an increasing number of Tongans to plant their entire landholding with coconuts.

245 It was noted in such cases that extensive coconut production
241 is accompanied by smaller gardens and less rotation of crops. This
[438] subsequent reduction of tuber food crop yields is compensated by the purchase of foodstuffs in neighboring village or urban areas. In Ha'apai and the more densely settled portions of Tongatapu, an occasional interviewee reported the necessity of planting entire land
[262] holdings in coconuts to insure a cash income. Increasingly, incomes
[439] from cash crops are providing households with diets of imported foodstuffs, replacing those of traditional crops.

The possibility of subsistence crop production in conjunction with coconut planting is largely dismissed by Maude (1970). While coconut yields can be temporarily improved by the occasional clearing of bush for gardens, the burning of the cut vegetation scars the palm and severely reduces production. In addition, once the planting cycle is complete and fallowing begun, vegetation is allowed to grow around the palms unhindered. This growth not only competes

241 for plant nutrients and soil moisture, but also hinders collection
245 of nuts (Maude 1970, p. 60). Similarly, planted food crops also
[435] compete for soil nutrients, and none of the interviewed farmers
reported using significant amounts of fertilizer, owing to rapid price increases. Only when coconut production is profitable enough to pay for increased fertilization is interplanting of significant value.

In addition, when interplanting is practiced, the potential for the reduction of both coconut and subsistence crop yields exists, due to competition for moisture, shading, and damage to the root system of the coconut. Maude concluded that there is, as yet, no satisfactory integration between the bush fallow food cropping system and the coconut plantation (Maude 1970, p. 60). Therefore, as the development of cash cropping continues, through enforcement of palm cultivation laws or simply the farmer's desire to insure a larger cash income, a significant alteration of Tongan agricultural society will emerge.

245 The increased planting of palms since 1965, initiation by the
Coconut Replanting Scheme, has brought about an increase in the cash
241 income of Tongan landholders. However, owing to the incompatibility
262 of bush fallow and plantation cultivation, the landowners' production
of foodstuff for home use is increasingly curtailed. As a result, the increase in cash income is frequently used entirely in the purchase of food from village or urban markets. The dietary and nutritional implications of this alteration will be discussed in the following chapters.

241 Frequently, walking for
461 another hour follows the bus ride. Transport of crops from the 'api
484 usually involves greater lengths of time as the common method con-
494 sists of a horse-drawn cart (Plate 9, p. 93). ^A
[481]

Fishing is a second significant activity conducted away from
226 the 'api, although of less concern within the interior of Tongatapu
[461] and along those shores with poor sources or access. In Vava'u and
● [262] Ha'apai, fishing often consumes several hours per day, and supplies
[438] not only family food needs, but also enough for sale in local markets.

461 A third major activity concerns church and social functions within the local village or the nearest urban area. Many of these activities are concentrated during the weekends, such as marketing and major church functions. However, social activities during the week require participation of several hours per week.

In addition to the above, an entire range of miscellaneous labor must be considered, due to the low level of specialization of
461 labor in Tonga. Thus, to summarize, it is evident that potential
241 expansion of agricultural production in Tonga involves not only issues of land tenure and management, but also individual incentive, tradition and the amount of time devoted to agricultural activities.

During interviews conducted on all of the major Tongan islands, lack of land was most frequently denoted to be the major limitation upon agricultural expansion, while laziness of Tongan
241 farmers was the second most frequent response. The third most
412 frequent explanation concerned the lack of adequate agricultural tools and machinery. An examination of farm equipment, either owned or rented by the interviewees, indicated that most farmers possess

^A [Due to poor quality of original, plate has not been marked for a Category—Analyst.]

101: Clark K-4,5 (1974) 1978 OU9 Tonga OU9

231 TABLE 15.--Livestock Owned by Tongan Households: Sample of 265.

	Households Owning (%)	Mean Owned per Household	Range of Ownership	Total No. of Livestock Owned By Entire Sample
Horse	38	1.0	1-6	98
Cattle	12	4.0	1-12	124
Pigs	55	4.9	1-48	700
Goats	27.5	2.5	1-8	179
Total fowl	70	20.2	1-50	3,676

[101] SOURCE: William F. Clark, data collected through personal survey, Kingdon of Tonga, August-October, 1974.

[438] [439] Livestock, as a food source or a cash product, is raised almost exclusively for the domestic market. Very little of this produce is exported to neighboring nations. In addition, the domestic role of livestock is complex and complicated by tradition. 262 Pork is consumed more frequently than any other meat source, exclud- 272 ing fish, and with the possible exception of poultry. Fresh milk, for feeding small children, is usually in short supply, although the large number of goats on the islands represents a potential source of milk protein. Tradition, however, undermines the widespread use 262 of goat's milk. Food production and consumption patterns in traditional Tongan society are more often influenced by social custom than by need.

231 492 Survey results indicated that horses are owned by 38 percent of Tongan households, and are used as a means of transportation.

231 Horses are most frequently used for transporting agricultural produce
492 from farm to village markets, either as pack animals or in con-
231 junction with a cart (Plate 9).A Despite their obvious usefulness, horses are largely uncared for in the Kingdom, being frequently overworked and then tied in the bush or village with insufficient food and water. As a result, many of the animals evidence gross nutritional deficiencies and, subsequently, operate far below their potential.[1]

Cattle were reported as being owned by 12 percent of the surveyed households. Generally speaking, these households had access to more land than the average, and therefore could allot land for pasture in addition to agricultural cultivation. Cattle are not an integral part of Tongan agriculture, and at present provide only limited quantities of meat and milk. Although past attempts to establish herds on Tongatapu and 'Eua have met with varied success, cattle are not expected to become a significant factor in Tongan
[249] agriculture. Occasionally, cattle are grazed on cash crop plantations (i.e., coconut), in an attempt to reduce the grass and weed

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[262] [1] The plight of the horse is similar to that of the dog, a frequent food source in Tongan society, in respect to general care. Both have a marked dependency upon man for food and care. In the case of cattle, status insures the well-being of the animal, while pigs, goats, and fowl are able to sustain themselves as efficient scavengers. However, the domestic dog evidences neither characteristic, and is often in a state of starvation, due to his dependency. The same is true of the horse. Therefore, a seemingly contradictory image of livestock is found. Poorly maintained horses, which are essential to agricultural transportation, and dogs, which provide a food source, exist in conjunction with healthy pigs, goats and fowl, the scavengers of Tongan agriculture.

A[Due to poor quality of original, plate has not been marked for a Category--Analyst.]

231 cover, which is attractive to rats. However, the initial expense
245 of cattle, plus continued capital outlay for maintenance, substantially reduces the profitability of this scheme.

231 Goats were owned by 27.5 percent of the total survey
[241] sample. Although a potentially valuable source of meat and milk,
roaming goats cause considerable crop damage in Tonga. The goat is
one of three scavengers, competing with pigs and fowl for household
[262] refuse and other edible items. While goats are occasionally used
[431] for meat on special occasions, the pig is considered to be a much
[272] more prestigious food or gift. In addition, because of the low
status ascribed to goats, use of goat's milk is avoided. Thus,
the role of the goat in Tongan agriculture is expected to remain one
of little significance.

Pigs are the most prestigious livestock raised in Tonga, and
[262] were owned by 55 percent of the survey sample. As mentioned previ-
[431] ously, the pig is a meat source used for important social functions
and traditional gifts. Being the most common of Tongan livestock,
the pig plays an indispensable role in the control of garbage and
refuse, plus provision of meat protein. Most households own
several pigs, raising them as a food source or as a means to fulfill
[436] a variety of social obligations. It is not uncommon for taxes,
debts and other financial obligations, especially to the nobility,
[262] to be paid with one or more pigs. Pork is not included in the
average Tongan weekday diet, being consumed primarily during main
Sunday meals or at feasts.

231 Being a scavenger, the pig is generally allowed to roam unrestrained, although laws prohibit the animal from being untended in major urban areas of each island group. However, enforcement of these laws appeared to be quite lax. Roaming animals were frequently noted on the periphery of the main business sections of Nuku'alofa and Neiafu, as well as entering and leaving the royal grounds in Nuku'alofa. In villages, pigs are occasionally confined to prevent crop destruction. However, it was observed that confined pigs appear less healthy than those left unrestrained. This is probably the result of poor environmental management, plus the disruption of scavenging.

Seventy percent of those surveyed owned some variety of
fowl, with chickens being the most frequent. Fowl, which represent
the third scavenger in Tongan agriculture, are seldom confined.
262 Their major food function is the provision of meat, since eggs are
seldom collected. The sale of eggs was noted only infrequently, and
438 at a price prohibitive to the typical Tongan. A single egg may sell
435 for as much as 13 cents. Most eggs are left undisturbed to hatch,
although more than half of any given brood dies from dampness or
destruction by other animals. Thus, lack of management successfully
eliminates the utilization of eggs as a food source, plus severely
reduces the number of fowl available for consumption.

To summarize, livestock ownership remains largely a matter of status, often exemplifying more value as a product of social exchange than as a source of food. The maintenance of stock is

000
443 month. On the other hand, some farmers market their produce only
monthly or occasionally during the year, depending upon when a cash
443 need arises. A third type of seller is the craftsman who produces
439 items of quality specifically for the tourist trade (i.e., handi-
crafts of wood, shell or tortoise shell) and markets these goods
only when a tourist ship or plane has brought passengers from Fiji
or Samoa. Thus, the craftsman's sales are largely independent of
the needs of native Tongans. The prevalence of this type of pro-
ducer is expected to increase, as tourism develops within Tonga.

443 A variety of baked goods may also be found in the market
438 on Saturday. Though largely devoid of flavor and extremely heavy
● [262] in texture, Tongan "cakes" are popular and sell rapidly. An
excellent market also exists for peanuts. Supply rarely is adequate
to meet demand. The sale of kava (from which "Tongan beer" is
made) is also brisk. Kava is lightweight and easily transportable.
Producers on Ha'apai, Vava'u and many of the isolated islands often
send kava to Nuku'alofa for sale.

[655] The major competitor to the open-air market is the Vuna
Government Market, which handles the majority of fish and meat sales
to Nuku'alofa and surrounding Tongatapu. Many of the local stores
are also beginning to sell fresh meat products. Consequently, the
amount of meat sold in the market fell from 160,771 pounds in 1971,
443 to 94,684 pounds in 1973. The sale of fresh fish in the market
438 rose during the same period, mainly due to the operation of a gov-
655 ernment fishing vessel which had a total catch of 203,243 pounds in
228 1973 (Report of the Minister of Agriculture 1973, p. 24).

228 [655] facilities are governmentally controlled. Thus, most fishermen catch only that which will satisfy family needs, plus a small quantity for immediate sale.

434 Data determining income levels from all types of cash food production (including fishing) was collected during household surveys.[1] Range of income was from zero to $1,200 per year, with a mean of $480 per year for those farmers selling produce. Sale of copra results in the largest cash income, with vegetables (all types) second and bananas third.[2]

434 178 During survey discussions concerning income, it became
apparent that cash incomes have increased substantially over the
past several years. As a result, Tongan farmers are enjoying an
increase in purchasing power, reflected in the purchase of non-
traditional items, such as imported foodstuffs or the purchase of
[439] food items from local producers. However, while few farmers are
totally dependent upon this new cash-based living, the significant
[262] increase in the use of canned goods, sugar, bread and assorted
imports is an obvious indication of the direction of this trend.

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[128] [1] The average Tongan farmer keeps no record of his yearly or monthly earnings and survey information probably reflects mere estimations. In addition, in several instances, it was apparent that income levels were being exaggerated or minimized for one or more reasons. Although obviously skewed data was excluded from survey data compilation, it is reasonable to assume a margin of error still exists. For this reason, only range and mean of income are used, in an attempt to minimize the effects of misleading data.

[2] The other major contributors to the household cash income include the sale of handicrafts, plus income derived from relatives or overseas sources.

434 (This concept, which is becoming more notable in all segments of
178 Tongan population, is analyzed within the following chapters.)

241 In summary, while many aspects of Tongan agriculture have
178 remained basically unchanged through history, there have been
several significant alterations with respect to population growth,
178 land distribution and cropping practices. The most significant of
434 these changes has been the development of cash cropping and the
[241] subsequent rise in purchasing power of the average Tongan farmer.
[439] An indication of these alterations is the increased incidence of
[262] material items within the household, plus reliance upon imported food
products, such as tinned meat, fish, bread and sugar.

245 The continually good market for copra and coconut products
241 has resulted in many 'apis being planted almost entirely with palms,
[178] and less production of traditional foodstuffs. In addition, in
densely populated areas where food crops are interplanted with palms,
the competition for sunlight, soil nutrients, and moisture insures
significantly lower yields from food plants.

178 Low production yields associated with decreases in soil
241 fertility are frequently the result of the shift to a more continuous exploitative cropping system. This change is stimulated by the
178 Tongan farmer's desire for increased cash income, and by increasing
241 population pressure on land available for cultivation. This popu-
161 lation pressure is intensified by the migration of individuals to
Tongatapu from the other island groups, especially Ha'apai. The
Tongan situation is becoming increasingly intensive, with often a
crop/fallow period ratio of one to one, and a supported population

241 density in excess of 600 persons per square mile, in some regions. 178 161 Surveys determining fallow periods evidenced a marked decrease in fallow time in Ha'apai and densely settled portions of Tongatapu, 241 and a subsequent lengthening of the cropping cycle. In many cases, cropping is continuous, considering the frequent practice of sparsely planting fallow acreage with tubers.

241 242 The use of fertilizers necessary in offsetting the nutrient depleting effect of intensive cropping is not financially feasible nor understood by the typical Tongan farmer. The issue of maintaining soil fertility is of critical concern to the few agricultural and soil technicians in Tonga. However, owing to prohibitive cost, scarcity, and lack of knowledge, it is expected that most Tongan farmers will continue to rely upon the fallow system for replenishing soil nutrients.

241 244 178 ●[262] The problems of soil fertility and land availability in Tonga have resulted in the increased cultivation and household reliance upon taro and cassava as major food staples.[1] Cassava represents the best example of the variation in food cropping 241 244 brought about by increasing pressure upon the land. In a status ranking of tubers grown in Tonga, cassava is found at or near the bottom. However, even though the least desirable, cassava is the

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[1] Both tubers were introduced into Tonga in the nineteenth century, although a variety of taro was cultivated in Tonga prior to that period. The introduced taro varieties are more tolerant of dry, upland conditions, as opposed to the marsh requirements of the earlier species. Today most taro is cultivated without a marsh environment. Cassava is an introduced food crop. Of the cultivated tubers, cassava is lowest in status and its increasing cultivation is due to necessity, rather than any growth in popularity.

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easiest to cultivate, plant or harvest, requiring very little care for a high yield. In addition, of the tubers grown in Tonga, cassava is the least demanding upon soil fertility and is the most tolerant of drought. Survey data indicated that cassava is cultivated the most in the densely populated portions of the islands or in those areas where land availability is limited.

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The increasing reliance upon cassava presents a potential nutritionally detrimental situation. Cassava as food is nutritionally unbalanced in several ways, particularly in protein content. Protein derived from cassava is deficient in the sulfur essential amino acids. Therefore, most cassava protein, low in total value to begin with, is unavailable for use by the human body. The consumption of cassava, in lieu of more nutritionally balanced foods, could result in protein deficiency in several segments of Tongan population, including pregnant women and preschool children.

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[178]
The increase in cassava cultivation has seemingly brought about a corresponding decrease in the cultivation of yams. Though the yam is the most prestigious of the major tubers, yams are a much more labor intensive crop than cassava, requiring intensive soil preparation, careful planting, weeding and harvesting. In addition, yams are more demanding on soil fertility, and with increasing cash cropping and decreasing land availability, less land is suitable for yam cultivation. The trend toward decreasing fallow periods does not permit sufficient soil nutrient accumulation for favorable yam growing conditions.

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CHAPTER VII

NUTRITIONAL IMPLICATIONS OF CHANGE

369 Investigations in Tonga, presented in the previous chapters, indicated that agriculture, land and population are major contributors to the urbanization process. There remains to be discussed the fundamental subsistence of those residing within the urban environment. Public health, housing, water supply, waste disposal and disease vectors are only a few of the problems encountered in
121 massive urbanization. However, of particular interest to this
146 research are those factors altering the nutritional patterns of the urbanite. Specifically, the degree of nutritional gradient between rural and urban populations is perceived to be important and an issue largely neglected in considerations of Pacific island urbanization.

146 At present, the Tonga Islands are relatively devoid of recorded malnutrition, when compared to selected nations of Africa,
178 Asia and South America. However, a pattern of development in
146 Nuku'alofa, similar to the urban centers of other regions, is becoming more apparent. The continued urbanization of Tonga's population, approaching 50 percent of the nation's total, frequently is accomplished at considerable cost to family health and welfare.

146 The traditional food patterns of the Tongan are nutri-
262 tionally balanced. Fruits and root vegetables provide sources of

146
262 calories, vitamins and minerals, as do nuts and shellfish. However,
146 this balance in the average Tongan diet has recently undergone
262 significant change. Particularly since World War II, imported
178 cereal products are replacing the traditional vegetables, while
tinned varieties of meat and fish are replacing fresh sources.
146 However, survey results indicated that this dependency upon
262 imported food products is more pronounced in urban areas, especially
369 Nuku'alofa.

146 The history of Tonga, as well as the generalized South
Pacific, shows the classical forms of malnutrition to be very uncom-
[757] mon. Accounts of folk medicine reveal very few treatments for the
symptoms of malnutrition (Harr'e 1973, p. 86). Similarly, more recent health and nutritional surveys, conducted by the South Pacific Health Service during the 1950s and including those by Langley (1952), and Whiteman (1956), did not note significant nutritional variations between rural and urban populations. However, rapid population expansion in conjunction with the developing of urbanizaton, during the 1960s and 1970s, necessitated a reexamination of Tonga in terms of undernourishment and classic malnutrition. Investigations by Hansell (1962) reported that up to 15 percent of households contacted by the Tongan Service for the Protection of Mothers and Children evidenced some signs of protein-calorie malnutrition (Hansell 1962, p. 288). More recently, Jansen (1973) reported that protein-calorie malnutrition is becoming a more frequent occurrence within Tonga, with 55 cases reported in 1971. Malnutrition was

125 in previous chapters indicated the economic and environmental factors conducive to the development of nutritional disorders. Preschool children were chosen as subjects, in that they are the most dependent on household food supplies. The selection of the sample was conducted randomly, within such cross sections of Tongan society as religion, economic and social standing. Collected data from 265 preschool children (114 female and 151 male) was then examined in light of possible rural/urban variations in nutritional well-being. For a more complete description of data collection procedures, see Appendices B and C. A

121 The prevalence of protein malnutrition represents a serious risk in Tonga, for several reasons. A correlation between urbanization and the incidence of protein malnutrition, as well as additional nutritional factors, adds a new dimension to any consideration of the urban process in Tonga or the South Pacific in general. With regard to the individual, lesser degrees of protein malnutrition may cause retarded physical growth (most obvious in height and weight). In addition, a malnourished individual suffers more from a variety of common infectious diseases than does a well nourished person.

262 [121] In any consideration of food production, distribution, consumption and value patterns, a variety of cultural factors must be recognized. In Tonga, several such factors have a profound influence upon the quantity and quality of food consumed by the preschool child. Aside from purely economic factors, which frequently dictate quantity and quality of food consumed, the family size and age spacing are also important. Cultural patterns, which determine the

A [See Category 125, p. 174-188--Analyst.]

262 264 Cultural patterns, which determine the rank order of food consumption during family meals, also often limit the preschooler's diet.[1]

262 Diet is also influenced by the prestige value of foods as was discussed in relation to papaya, pork and goat. Tubers are generally ascribed a high prestige value in Tonga. This is [146] particularly true of the yam and white potato. However, leafy vegetables which are potential sources of vitamins lack this status

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[1] Tongan government officials and members of the World Health Association publicly deny the existence of a feeding order within [124] Tongan households. However, it was confidentially learned from field officers of W.H.O. and medical personnel in Tonga that such a situation does exist and is a significant influence upon the nutritional well-being of the preschooler. Personal observations substantiated the prevalence of a traditional feeding order, in which the meal is consumed in shifts, with adult men (joined occasionally by women) eating first, women and children eating in an order following. It was noted in many cases that preschoolers are unable to compete with older children for those food items not consumed by [855] adult family members. Occasionally older children are given charge of feeding younger brothers or sisters, and subsequently neglect their responsibility. Thus, another significant factor which influences the nutritional well-being of the preschooler is his age [221] and ability to fend for himself. A category of foods nearly universally neglected in nutritional survey work is that generally known as "bush food," or those wild or domesticated fruits, nuts, etc. which an individual collects and consumes away from the household. A preschooler is not physically developed enough to take advantage of this food source. A three-year-old was never observed scaling a coconut palm in search of a snack. However, a 40 foot [226] palm proved no obstacle to a 6- or 7-year-old. Similarly, preschoolers were never observed on the reefs searching for edible raw shellfish. However, older children, as well as numerous adults, were able to take advantage of this valuable protein source. The preschooler is at a developmental stage in which he is totally dependent upon the household for food. However, within the household, he usually consumes only the leftovers and is often left out entirely. This cultural pattern is totally contradictory to the nutritional needs of the growing child.

262
146 and are often excluded from the diet.[1] On the other hand, imported
262 foods are perceived as being prestigious items. Some imports have
146 limited nutritional value, although often below that of domestic
263 products, while others such as refined flour, cereal products and
sugar may cause or aggravate conditions of ill health, sugar being
263 an obvious offender. Hansell (1962, p. 288) listed increased sugar
164 consumption as being the principal cause of the rapid rise in the
incidence of dental caries in Tonga. Personal observations verified
this situation, with a marked predominance of cases noted in
Nuku'alofa.

125 During the data collection process, a 24-hour dietary recall
was conducted for each preschool subject, to determine any obvious
dietary variations between rural and urban children. In addition,
a frequency of consumption record was taken for the entire family,
listing the frequency during an average week with which selected
foodstuffs were consumed (i.e., fresh or canned meats and milk,
tubers, cereal products, soft drinks, alcoholic products and sugar).
In collecting this data care was taken to avoid the inclusion of
[527] weekend food consumption, especially that of Sunday. Because Sunday
[574] is a traditional day of feasting and heavy eating, a 24-hour dietary
recall of this day would give a skewed and unrealistic picture of
the preschooler's food consumption pattern.

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[1] The best example of this is the leaf of the taro plant. The leaf is used in the preparation of many dishes called "Lū" (i.e., lū pulu or beef, lū ika or fish) in which the meat is, in combination with coconut cream, etc., wrapped in taro leaves and cooked. However, the prepared dish is usually eaten without the leaf wrapping. In addition, raw vegetables, such as cabbage or greens, are not eaten.

125 The information acquired for the household frequency of con-
sumption record usually consisted of rough approximations. How-
ever, several important aspects became evident during the rural to
263 urban comparison. For example, household usage of sugar was found
to be as high as 3.31 pounds per person per week in Nuku'alofa,
although the average for the entire urban sample was 1.18. On the
other hand, rural consumption of sugar averaged only .57 pounds per
262 week. Cereal products, including bread and flour, are also used in
greater quantities in Nuku'alofa than in rural areas.[1]

[272] The consumption of soft drinks, alcoholic products, and
[273] cassava significantly increased in the urban areas, while the con-
[435] sumption of yams decreased. In the case of tubers, this fact most
probably reflects economic forces which dictate that a basket of
cassava cost T$.80, while a basket of yams sells of T$10-12.[2]

A higher rate of consumption of canned meat products was
also observed in the urban area, although this product is widely
used throughout Tonga--a probable reflection of its ease of distri-
125 bution, storage and social status. A purchase of two samples of
146 the most commonly used canned meat, and a subsequent proximal

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[443] [438] [1] This data may have been influenced by the distribution of such products over the islands. Surveys of stores in rural villages indicated that often sugar, flour and bread were not in stock. At times, the entire Kingdom is devoid of such basic commodities as sugar or flour. In one such incidence, over two weeks elapsed before a new shipment arrived from overseas sources, during which the entire nation lacked sugar. However, even with consideration being given to these influences, a significant variation between rural and urban consumption is evident.

[2] Prices acquired in the Nuku'alofa market, October, 1974.

125 analysis of these samples revealed that in each case, quality was
146 below suggested standards in content of protein, fat, carbohydrate
146 and moisture (Table 21). This was especially true of the sample of
K. & R. Corned Meat Loaf. This product is frequently consumed in
435 Tonga, a probable reflection of its lower cost. Price surveys
[262] indicated that this meat loaf sold for approximately T$.30-.35,
while the other canned meat sample analyzed sold for T$.75-.85.[1]

262 Fresh beef from Australia and mutton from New Zealand are
146 also consumed in greater quantities in urban Tonga. Analysis of
[125] random samples purchased in Nuku'alofa showed the surface fat of
beef imports to be in excess of 73 percent of total product weight.
Similarly, mutton samples not only evidenced a high fat content but
were also greatly weighted by bone.[2]

262 On the other hand, individuals residing in rural areas consume more fresh meats such as pork, poultry, and fish (although fresh and canned fish are popular throughout the Kingdom), plus a greater variety of tubers. Yams, sweet potatoes, and taro retain their important traditional role in the Tongan diet within the rural

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[439] [656] [1] The results of the analysis of both products, which are imported from Australia, emphasize the fact that the Tongan government, despite recommendations by members of medical professions and church groups, refrains from monitoring the quality of products imported into Tonga. This neglect is exploited by foreign commercial organizations as evidenced by the analysis of the above canned meats, in addition to imported fresh meat samples (Appendix C).^A

[659] [2] The Tongan government recently announced plans for a refrigerated vehicle to transport fresh meat to rural Tongatapu. The value of such a scheme is questionable, considering the low quality of the products to be transported.

A[See Category 125, p. 186-188--Analyst.]

146 TABLE 21.--Proximal Evaluation of Canned Meat Typically Available to Tongan Consumers.

Content (%)	Globe Corned Beef	K & R Corned Meat Loaf	Suggested[1] Value
Protein	21.93	7.68	26
Fat	10.82	13.63	8
Carbohydrate	.95	13.39	--
Ash	2.50	2.40	4
Moisture	63.80	62.90	62
Total	100.00	100.00	100

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[1] Value for corned beef as given in H. S. Mitchell, et al., Cooper's Nutrition in Health and Disease, 15th ed. (Philadelphia: J. B. Lippincott Co., 1968), p. 553.

262 environment. Cassava, though consumed throughout the Kingdom, is proportionally less important in rural areas. However, as emphasized in preceding chapters, this fact is changing, with increasing consumption of cassava in such densely settled areas as western Tongatapu and Ha'apai.

264 The 24-hour dietary recall for each preschool subject substantiated the trends indicated by the frequency of consumption records. In urban Nuku'alofa, children often eat only one or two
262 meals per day. Of particular interest is the urban child's
272 reliance upon bread and butter for an entire meal. Tea is also

272 a popular drink at mealtimes. It is actually little more than hot sugar water and remains a poor substitute for milk or broth.[1]

262 146 273 Snack foods consumed by urban preschoolers also are of poor nutritional quality such as imported cookies (called biscuits), soft drinks, and miscellaneous items (cheese puffs were observed to be favorites). 262 In rural areas a child is most often given coconut, taro or a fruit, such as papaya or mango, when in season. Rural children also enjoy a greater variety of foods per meal, with several tubers being supplemented by fruit and frequently meat or fish.

146 To summarize, the preceding data indicated that individuals residing in urban Tonga consume less nutritionally balanced diets. [124] This was substantiated by interviews with the medical staff of Vaiola hospital on Tongatapu. The urban group most frequently having substandard diets was found to be migrants from other islands or

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272 146 [439] [1] The low consumption of milk in all regions of Tonga, but especially Nuku'alofa, is a nutritional shortcoming in the Tongan diet. Imported milk sources such as powdered, sweetened condensed or evaporated products are available and, if used properly, could be influential in improving the preschool dietary condition. However, the most frequent way of serving milk is to substantially dilute the mixture with water (often unclean) and thereby reducing the nutritional value. Domestic sources of cow's milk are scarce and expensive, while the large milk goat population in Tonga represents a largely unused potential milk source. A nutritive comparison of goat's milk and cow's milk indicates that goat's milk is quantitatively higher in most vitamins and minerals, contains more fat, a higher total caloric value in addition to a reasonably equal protein value. Widespread use of goat's milk, as suggested in previous chapters, would improve the nutritional conditions of many currently malnourished Tongan children. However, the consumption of goat's milk is believed to be indicative of low social prestige and government officials are unreceptive to information concerning its potential value.

Tinned Mean Samples

125 Two samples of tinned meat were purchased in Tonga and
subsequently analyzed upon completion of the data collection process.
125 The selection of the meat samples was based upon the criteria which
262 influence their consumption by the Tongan people: (1) availability
435 throughout the islands, determined during price surveys in village
and urban shops; and (2) price, K. & R. brand Corned Meat Loaf
being usually the cheapest of the tinned meat products of comparable
variety. It appeared that the large-scale consumption of the meat
loaf was based solely upon price as it was perceived to have the
lowest prestige value of all tinned meats. Globe Corned Beef,
the other tinned meat sample selected, enjoyed a much higher status
ranking but had a medium price, making it more acceptable than
products advertised to be better quality tinned beef products. ✓

128 Each product was analyzed by proximal determination, which
125 supplied values for protein, fat, moisture and ash. Carbohydrate
values were determined by the subtraction of the total values for
protein, fat, ash and moisture from 100 percent. The Kjedahl-Total
Nitrogen method as described by McKenzie was used to determine the
protein content while fat content was discovered using the Soxhlet
method (McKenzie and Murtphy 1970, p. 158). Moisture was determined
by weighing a sample of the product, vacuum drying it at 100°F for
5 hours, and then reweighing it. Ash content determination called
for charred samples being placed in a Muffle oven at 500°C for not
less than 6 hours.

562 One of the most re-
markable things in connexion with the Tonga Islands is the
562 respect and consideration in which the women are held. They
565 have female chiefs; and if a woman of the higher class marry any
one beneath her, she still retains her superior rank.

133 The coral reef at Nu-ku-alófa forms a belt along the shore, varying from 50 to 150 yards in width, deepening suddenly so that a large vessel at low water might lie close alongside it like a wharf. Over this coral flat we had always to walk upon landing, the depth of water upon the crumbling coral varying from ankle to knee-deep, with occasional holes in which one might suddenly find himself up to the neck. After our first visit we always went prepared for any depth.

643 At 4 o'clock King George, accompanied by the missionaries,
609 Messrs. Lawry, Amos, and Daniells, came off to the ship. His
Majesty now wore a clean white shirt, with the usual tappa petti-
[292] coat fastened round the waist and hanging down to the feet. He
was received at the gangway by Captain Keppel and officers with a guard of honour, and was then taken below to the captain's cabin. Here he looked with great attention at the pictures hanging round, particularly at some hunting scenes; and being shown a coloured panoramic sketch which I had made at Cape York, with canoes and Torres Straits natives in the foreground, he looked at it very attentively, inquiring where they belonged to, and asking several other questions about them. In the dining cabin he examined with
great interest the engraving of the Queen after Winterhalter.
[264] At dinner his manner was composed and dignified: he took soup,
[157] and used a knife and fork with perfect ease, taking wine with Cap-
tain Keppel and the rest at table, preferring champagne to any
other, but drinking very moderately. When asked if he would
● [262] take some wild-duck (which had been shot at the lagoon in the
island), he replied, "No, that is Tonga, I can always get that," and, looking towards a leg of mutton, added, "I will take some sheep." He inquired the rank of the different officers who were at table, and observing a midshipman amongst them, he asked
[262] "Why that boy was there?" As he was helping himself when the
cheese came round, one of the missionaries interrupted him rather hurriedly, telling him that he thought he would not like it; to which he replied quietly, "If I do not, I can wash it down with water."
[157] The most perfect composure of manner marked all his actions, and
formed one of the most striking features in his character. At dessert, several glasses, containing different kinds of wine, were placed before him, in order that he might choose which he liked best. Captain Keppel observed at the same time that there were other light French wines if he preferred them, at which he shook his head, and said, with an animated expression in broken English, "I do not like French." Upon his health being drunk, and the

225 towed by the whale for miles, sometimes at a speed of twenty miles an hour. After thirty minutes or so, the whale, having spent a lot of energy, comes to the surface as its speed gradually reduces. The whalers, knowing that the animal is nearly worn out with exhaustion, lessen the distance between the boat and the whale by pulling in the harpoon rope to close up for the kill. This being done, the mouth of the whale is sown up to prevent the water entering the body
[262] and thus sinking the catch. It is then towed ashore to be carved up for meat, oil not being exported.

7.—OTHER SEAFOOD.

226 (a) *Ala Kuka.* Small crabs known as *kuka*, of three cubic inches in all, is a most relished seafood. These crea-
[825] tures inhabit the sandflat where mangrove trees grow but
[262] the Tongans do not bother about them until full moon high tide (spring tide). When the tide goes out these crabs come up above their burrows, being filled with water to the top. Thousands can be found under the mangrove trees where they are easily caught and bagged by the hundreds.

[196] (b) *Uku Vasua. Vasua* (*Tridacna*) can be found in all groups in the Kingdom. Great care should be taken not to get anything between its shells as it is going to be a certain
[262] loss. It is a popular seafood picked up from some depths by divers.

(c) *Ala To'o* is the picking up of a small round whitish sea shellfish living in colonies on the sandflats.

(d) *Ala Kuku* is the picking of elongated reddish sea shellfish, living amongst rocks and seaweeds.

[262] (e) *Ala Muli'one.* Seaslug, although leathery, has always been a seafood of the Tongans. It is very easy to find on the sand flat all over the northern side of Tongatapu and around the outlying islands of the other groups.

[262] (f) *Fua Kolukalu.* Jellyfish is another seafood much relished by many Tongans. In Tongatapu the lagoon is the only place where jellyfish is found in abundance.

(g) *Uku 'Uo* (lobster fishing). Lobsters are caught by spear-divers, mostly at night during high tide. At low tide lobsters stay in their hiding places under the rocks and at high tide they go up to the top of the reef to search for food.

At night the torch is lit and divers go under and spear them, one by one. 226

(h) *Shellfish ('Elili, Topulangi, Kaloa'a, Tavo'amanu).* These, and many others, are sought after by all Tongans. [825] *'Elili,* much larger in size than *topulangi,* are found on the rocks of the southern coast. They live on rocks where the waves break. Unless it is very calm, it is almost impossible to get them. *Topulangi* can be found on the reefs and sand-flats the same as *kaloa'a,* and *tava'amanu.*

(i) *Uku Tukumisi* (sea-egg fishing). Sea-eggs are [262] much relished by all Tongans. On the sand-flats of the outlying islands of the groups, *tukumisi* can be easily collected. Divers usually take their boat out to such areas of seaweeds where they are likely to be found and dive to a depth of six feet to collect them.

(j) *Tauhele Tolitoli* (crab trapping). Big crabs known as *tolitoli* are found on the reefs as well as on the sand-flats. In the water, divers usually spear them and on the sand-flats, where they live in burrows, they are often caught by setting traps at the mouth of the burrow. The legs of these crabs extend as much as twelve inches and more in length. *Tupa* is also trapped by this method although much smaller in size than the *tolitoli.*

8.—POISONOUS FISH.

Only a few fish species are reported to be poisonous, for 825 instance *sokisoki* and *te'ete'e.* Eating these causes immediate death. *Ulukau* is said to be poisonous except in some regions, like Talau in Vava'u.

9.—DESCRIPTIVE LIST OF COMMON TONGAN FISH.

Fish Names. There is a wide variation in fish names, as 825 far as vernacular is concerned, in the Pacific area, Not only 226 the differences in Melanesia, Polynesia, and Micronesia, but 136 also the peculiar way of naming fish differently in the adult and in the young stage even if they belong to the same species.